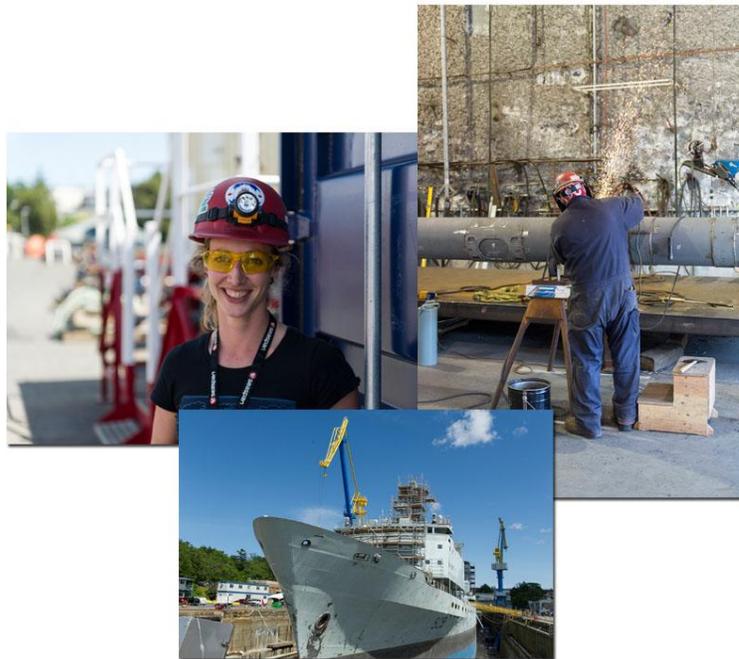


# Towards 2020:

## A BC Shipbuilding & Repair Industry

### Workforce Strategy



*Prepared by:*

BC Shipbuilding & Repair Workforce Table

REVISED DRAFT: July 27<sup>th</sup>, 2012

# EXECUTIVE SUMMARY

## BACKGROUND & IMPETUS

In October 2011, the federal government announced the results of the National Shipbuilding Procurement Strategy (NSPS), identifying Seaspan Marine Corporation of British Columbia as one of two successful proponents on the federal government's \$33 billion program to construct combat and non-combat vessels for the federal government (vice Coast Guard) over the next 20 years.

Seaspan was awarded the rights to construct non-combat vessels over 1,000 tonnes for the federal government, an agreement that could eventually see \$8 billion in shipbuilding contracts. Early estimates suggested that the NSPS program would inject billions into the provincial economy and create an average of 4,000 direct and indirect jobs for the province.

This Workforce Strategy has been developed by the BC Shipbuilding & Repair Industry Workforce Table (the "Table") as part of its mandate to prepare a coordinated workforce strategy that will inform private and public investments in future labour market development initiatives.

The Strategy builds on research and consultations conducted by the Table in 2012 and is intended to be used as an action document with industry proponents and stakeholders, including public and commercial employers, businesses that supply services and equipment to the industry, federal and provincial government agencies, private and public training institutions, labour partners, and community partners.



In addition to the NSPS contracts, the BC shipbuilding & repair industry (SRI) is experiencing growth in other ship construction, vessel refits and maintenance and repairs, and in-service support contracts totaling an estimated \$10 billion to 2020. Substantial investments in the sector are also expected beyond 2020 - approximately \$825 million of investment is expected between 2020 and 2025, and a further \$1.025 billion between 2025 and 2030. This combined with the 'perfect storm' of aging of the SRI workforce, a declining youth cohort and extreme competition for talent by other industries and jurisdictions provides the impetus for this Strategy.

## THE BC SHIPBUILDING & REPAIR WORKFORCE TABLE AND PROCESS

The Table was created by the Honourable Christy Clark – Premier of BC – in November 2011 to work with industry to capitalize on the NSPS contracts as well as several other major shipbuilding and repair projects in BC. The Table concluded its work on June 30, 2012, with the completion of this industry-wide workforce strategy. The broad goal of the Table was to ensure that the shipbuilding and repair sector in BC will have the right numbers of workers, with the right skills, in the right places, and at the right time to enable the expansion and enhanced competitiveness of the entire sector. The general mandate of the Table was to:

1. Confirm the overall human capital requirements (i.e. labour demand) associated with the recent \$8 billion National Shipbuilding Procurement Strategy (NSPS) contract award and other significant projects and activities in the sector;
2. Review labour supply projections/sources and existing and planned training and other related programs and initiatives to identify opportunities and gaps; and

3. Develop a coordinated workforce strategy that will, in part, inform private and public investments in labour market programs needed to support the sector.

The Table activities leading up to the development of this Strategy included the following:

- Four Table meetings;
- Working Group meetings, conference calls and support work;
- A major Labour Market Demand-Supply Project;
- A major Competitiveness & Productivity Road Map Project;
- Engaging and obtaining input from Aboriginal organizations;
- Engaging and obtaining input from stakeholders; and,
- Communication and media relations, including wide distribution within and outside the industry of three e-newsletters.

This Workforce Strategy document addresses the following fundamental questions and is structured accordingly:

1. What is the current state of the industry and its workforce? (SWOTs, challenges, gaps, etc.)
2. Where should be the state of the industry and its workforce in 8-10 years? (vision, principles, long-term goals)
3. How can we effectively and efficiently advance from the current to desired state? (strategies, tactics, resources, timelines, etc.)
4. What should be our implementation strategy for executing the Strategy? (leadership, consolidation, coordination)

## SHIPBUILDING & REPAIR EMPLOYMENT

Employment in the SRI is already rising. Between 2006 and 2011, employment among commercial shipyard operators averaged 2,003 workers. Current baseline estimates of industry and associated workforce employment for 2012 reveal that there are: 3,198 workers in the shipbuilding & repair sector; and, 1,429 other plate & fabrication jobs dedicated to serving the shipbuilding & repair sector.

### BC Shipbuilding & Repair Sector + Other Plate & Fabrication Sector Employment and Jobs (2012- 2020)

Employment/Job Openings	Time Period	Shipbuilding & Repair Sector	Other Plate & Fabrication Sector	Combined Sectors
Employment Baseline	2012	3,198	1,429	4,627
Job Openings from New Employment	By 2016	1,503	753	2,256
	By 2020	488	234	722
	Total 2012-2020	1,991	987	2,978
Total Employment	By 2016	4,701	2,182	6,883
	By 2020	5,189	2,416	7,605
Additional Job Openings from Retirements	By 2016	423	204	627
	By 2020	424	208	632
	Total 2012-2020	847	412	1,269
Total Job Openings to be Filled	By 2016	1,926	957	2,883
	By 2020	912	442	1,354
	<b>Total 2012-2020</b>	<b>2,838</b>	<b>1,399</b>	<b>4,237</b>

Furthermore, labour market forecasts predict that:

- Employment in shipbuilding & repair will increase by 47% in 2016, and 62% by 2020;
- The other plate & fabrication sector will also undergo significant growth, peaking in 2018;
- When openings from retirements are added to employment growth, the total number of job openings by 2020 for shipbuilding & repair is 2,838, with an additional 1,399 for the other plate & fabrication sector.

This combined number of 4,237 projected job openings by 2020 equals 92% of current (2012) baseline employment in the combined sectors. To put this in context, at the provincial level projected job openings during 2010-2020 of 1,027,400 will equal 43% of baseline employment in BC.

Meeting future workforce requirements related to current investment opportunities will depend on the industry's ability to recruit, train and develop new workers to fill job openings resulting from both economic growth and workforce attrition (retirements).

### LABOUR MARKET CHALLENGES: SKILLS SHORTAGES & TRAINING GAPS

The introduction of the NSPS will test BC's shipbuilding & repair industry's ability to acquire and develop the necessary skill sets to construct new vessels on a scale that is much larger and more technologically advanced than any ship previously constructed in BC. Many of the workers employed in other plate & fabrication also require skills and training similar to the shipbuilding and repair workforce.



Competition for workers at all skill levels is increasing and the supply of younger workers is diminishing as the overall population ages. Employers are increasingly looking to other sources of labour to help meet future demand, including migrant workers from other parts of BC, Canada and internationally, while also increasing workforce participation rates among Aboriginal and other underrepresented workers.

Based on the Province's occupational projection model, skills gaps are projected for all shipbuilding & repair occupations through 2020. The more significant shipbuilding & repair skill (labour demand/labour supply) gaps are expected in Welder, Marine Fitter, Electrician, Pipefitter/Sprinkler Installer, Trades Supervisor, Machine Fitter and Marine Engine Mechanic occupations. These gaps will not be filled without changes in training approaches and/or other workforce strategies.

#### Projected Skills Gaps – Shipbuilding & Repair and Other Plate & Fabrication Sectors (2016 & 2020)

High Demand Occupations	Job Openings 2012-2020	Skills Gap 2012-2016	Skills Gap 2017-2020
Welder (A/B)	451	(268)	(165)
Marine Fitter	293	(180)	(105)
Electrician	276	(165)	(92)
Pipefitters & Sprinkler Installers	223	(167)	(48)
Supervisor, Trade & Related Workers	135	(45)	(76)
Machine Fitter	118	(88)	(18)
Marine Engine Mechanic	110	(73)	(32)
Sand Blaster	88	(43)	(43)

High Demand Occupations	Job Openings 2012-2020	Skills Gap 2012-2016	Skills Gap 2017-2020
Painter	66	(30)	(33)
Shipwright	56	(25)	(28)
Plumber	55	(27)	(24)
Procurement, Logistics & Material Management	45	(26)	(10)
Machinist	34	(17)	(10)
Quality Assurance	33	(18)	(9)
Mechanical Engineering (T&T)	32	(14)	(13)
Heavy Duty Equipment Mechanic	31	(19)	(10)
Construction / Project Manager	31	(19)	(10)
Electrical/Electronic Engineering (T&T)	28	(16)	(8)
Job Estimating	25	(19)	(4)
Millwright	21	(12)	(5)
Program Manager	11	(10)	(1)
Manufacturing Manager	8	(3)	(4)
Purchasing Manager	7	(4)	(3)

Meeting the demand for skilled workers in BC's shipbuilding & repair sector is challenged by several factors, including a lack of training and upgrading opportunities for new and existing workers. With the exception of apprenticeship training in support of the skilled trades, the shipbuilding & repair sector has managed without the benefit of public training support in most other occupations, including the marine trades, mid-management production, and critical function and support occupations.

A review of apprenticeship programming suggests that while the province's industry training system has some capacity to expand programming to help meet future demands for skilled trades workers in BC's shipbuilding & repair industry, there will also be competing demands from other industries for the same apprentices, for example mining, as well as oil and gas. The planned construction of several major capital projects will further exacerbate the demand for skilled workers.

The demand for skilled trades workers will strain the industry training system's ability to provide sufficient training opportunities for BC industries. Changes to the traditional apprenticeship model, including innovative delivery and sponsorship models, could help ensure that the shipbuilding & repair industry can take advantage of economies of scale within the traditional training system. Outside of the traditional trades, skills gaps will persist in those occupations currently not supported by some type level of formal training or education programming.



## TRAINING AND DEVELOPMENT OPPORTUNITIES

The importance of formal training and upgrading specific to the marine sector cannot be overstated. Although provincial education and training programs exist that could potentially help meet skill requirements, very few are specific to the marine sector. Skills gaps are most challenging in those occupations where training programs are lacking or non-existent. Education and training gaps are a major risk to the shipbuilding & repair sector going forward, particularly as it prepares to take on the challenge of building new vessels under the NSPS.

This Strategy – based on the Table’s research – identifies training gaps (either qualitative and/or quantitative) and opportunities in the following areas:

- Entry-Level Production;
- Marine Trades;
- Traditional Trades;
- Professional Engineers, Technologist & Technicians; and,
- Production Management / Critical Function and Support Specialists.

## **TOWARDS 2020: DEVELOPING A HIGHLY-SKILLED AND SUSTAINABLE WORKFORCE**

The NSPS presents the BC shipbuilding & repair industry with the opportunity to revitalize the shipbuilding industry on Canada’s west coast. However, the shift towards new vessel construction demands a workforce with skills sets and knowledge quite distinct from that required for maintaining and repairing vessels, which has been the focus of the industry over the last decade or more.

Guiding principles recommended for the development of the Workforce Strategy:

- **Industry Leadership** – industry is the lynchpin to ensuring that the labour market needs of shipyard operators and supporting supply chain businesses are fully identified and addressed going forward.
- **Industry Wide Participation** – engaging all levels of operations including small, medium and large shipyards and suppliers will ensure the development of a comprehensive strategy where all interests are represented.
- **Integrated Strategy** - while the NSPS represents the largest investment in BC’s shipbuilding & repair industry, it is not the only source of business for the industry. Future training and labour market development opportunities must be constructed within the industry’s broader business strategy.
- **Community Involvement** – workforce development opportunities that target local communities, including members from Aboriginal and immigrant populations, can help promote long term sustainability and stability for the industry.
- **Commitment to Training and Workforce Development** – the NSPS provides industry the opportunity to plan and develop the workforce force for the long term. Although near term pressures are significant, new training and labour market initiatives must be developed in the context of industry’s long-term requirements.

Elements/themes of the Strategy include:

- **Inform** – working with industry, education providers and community partners to inform and raise awareness of the benefits and career opportunities associated with BC’s Shipbuilding & Repair industry;
- **Attract** – improving the image of the industry and its careers and attracting young people, their influencers, job-seekers and others to the industry;
- **Recruit** – focusing on local sources of new workers and experienced workers with skills and qualifications applicable to the industry, as well as migrants from other parts of BC, Canada and internationally to fill gaps in higher demand occupations;
- **Develop** – developing marine specific training and upgrading in support of entry-level, marine trades, production management and critical function occupations;
- **Retain** – company and industry initiatives that focus on promoting workers from within the industry, and other efforts to retain the existing workforce even during periods of slower economic activity.
- **Lead & Coordinate** – Identifying/creating an industry entity to lead and govern the implementation of this Strategy.

Specific strategies and tactics have been developed within each of these human resource themes, with specific timelines, resource options, etc. These are summarized below.

## RECOMMENDED SPECIFIC STRATEGIES

Each specific strategy is prioritized in terms of impact, overall priority and timelines. In terms of timelines, strategies are grouped according to immediate-term (to start or complete by November 30, 2012); short-term (to start or complete by March 31, 2013); medium-term (to start or complete by March 31, 2014); and long-term (to start or complete by sometime April 2014 or later).

### Immediate-Term Strategies (By November 30, 2012)

Within each of these groupings, specific strategies are listed in terms of priority (potential impact and overall importance). For instance, the "immediate-term" strategy priorities are as follow (priority level in parentheses):

- Create an industry leadership structure to oversee and govern the execution of the BC Shipbuilding & Repair Workforce Strategy that is consistent with the recommendations of Table industry members. **(P1)**
- Develop and maintain a communication plan to announce and communicate about the BC Shipbuilding & Repair Workforce Strategy to British Columbians and others. **(P2)**
- Promote, brand and support IMTARC as the industry's training broker and expedite the development and implementation of the following new training programs. **(P3)**
- Create and support a Champions Table to develop a long-term targeted strategy to increase the training and employment of Aboriginal people in the industry. **(P4)**

The other short-term, medium-term and long-term specific strategies are summarized below in order of priority on a draft basis.

### Short-Term Strategies (By March 31, 2013)

5.1.2 Develop and execute an Aboriginal engagement strategy.

5.1.3 Develop and execute a stakeholder engagement strategy.

5.4.1.5 Expand the scope of training for traditional trades to include a marine option (i.e., endorsement) for work in a shipyard.

5.2.4 Develop a dedicated industry website including information on shipbuilding & repair careers, jobs, education and training programs and best practices.

5.3.5 Develop a systematic approach and tools for promoting workers within the industry.

5.4.1.7 Encourage more employers in BC's shipbuilding & repair industry to provide apprenticeship training opportunities and support apprentices in completing their programs.

5.4.1.10 Support and encourage innovative delivery approaches for industry training.

### Medium-Term Strategies (By March 31, 2014)

5.4.1.11 Develop targeted production management training programs specific to the industry and encompassing critical functions such as planning, job estimating, purchasing, logistics and materials management.

5.4.1.6 Develop formal upgrading programs to provide experienced production workers with skills and knowledge to effectively transition into leadership roles (e.g. management, supervisory).

5.2.1 Develop a sustained and coordinated career promotional campaign targeted at promoting shipbuilding & repair career pathways to K-12 students, youth and influencers (i.e. educators, parents, peers, media).

5.4.1.1 Use the new leadership entity to advise post-secondary institutions on education and training strategies.

5.4.2.3 Promote the adoption of new technologies and innovative business practices to improve labour productivity in BC's Shipbuilding & Repair industry.

5.2.2 Expand opportunities for students to get exposure to and gain work experience in the BC's Shipbuilding & Repair industry.

5.4.1.3 Support training (i.e., pre-employment and entry-level trades training) aimed at increasing the participation of underrepresented groups in the BC shipbuilding & repair industry.

5.4.2.1 Consider the implementation of appropriate recommendations of the EGS *BC Shipbuilding and Repair Competitiveness and Productivity Road Map Project Final Report*.

5.5.3 Develop and implement retention and transition strategies for older workers within shipbuilding and repair and for displaced workers from other industries.

5.3.4 Develop a systematic approach and tools for integrating new workers at all levels into the industry.

#### **Long-Term Strategies (April 1, 2014 and later)**

5.1.5 Promote awareness of shipbuilding & repair technology/process development and industry development issues and practices.

5.4.1.9 Work with training institutions, the Applied Science Technologists & Technicians of BC and national bodies on exploring the development of a marine option for existing mechanical and electrical technologist and technician programs.

5.4.2.2 Increase support for applied research related to new technologies and innovative manufacturing practices to improve productivity.

5.4.2.4 Continue efforts to research and promote best workplace health and safety practices and to identify new approaches to further reduce work-related injuries in the industry.

5.4.1.4 Advocate with the BC Ministry of Education for expansion and strengthening of vocational training programs in high schools to expose youth to BC's shipbuilding & repair occupations.

5.3.2 Support employers to focus recruitment in areas of high unemployment in BC and other jurisdictions in Canada before considering offshore recruiting.

5.3.1 Increase sharing of information about effective approaches for identifying pools of potential workers elsewhere in Canada and internationally.

5.5.1 Strengthen relationships between building and marine trades unions, employers and training providers to help ensure a sustainable supply of trainees, apprentices and experienced workers.

5.4.1.8 Examine the potential for partnering with other Canadian training institutions for the provision of naval architecture, design services and knowledge transfer.

5.5.2 Develop mentoring programs to support women, Aboriginal peoples and other underrepresented groups in the BC's shipbuilding & repair industry.

5.3.3 Continue to advocate for improved processes for credential and competency recognition.

#### **STRATEGY INDUSTRY LEADERSHIP AND COORDINATION STRUCTURE**

Based on discussions and recommendations made to the Table by its industry members, this Strategy proposes the following leadership structure and process:

1. Create a new body called the BC Shipbuilding & Repair Committee (SRC) (working title) with the following parameters:

- a. Roll existing Workforce Table membership into SRC
  - i. Limit membership to one empowered representative per organization
  - ii. Educational institutions and other non-industry stakeholders to be "subject matter expert" non-voting participants
  - iii. Government departments (e.g. WED, JTI, AVED) to be ex officio participants.
- b. SRC to be keeper and enabler of the Workforce Table deliverables, addressing the 3 pillars:
  - i. Workforce development
  - ii. Technology/process development
  - iii. Industry development

- c. SB&R Industry Human Resources Committee collapsed and duties absorbed by SRC.
- d. SCR initially supported by the existing LMP (managed by RTO) but SRC will plan to achieve independent self-sufficiency before LMP ends in 2013.

2. IMTARC to exist as an independent entity.

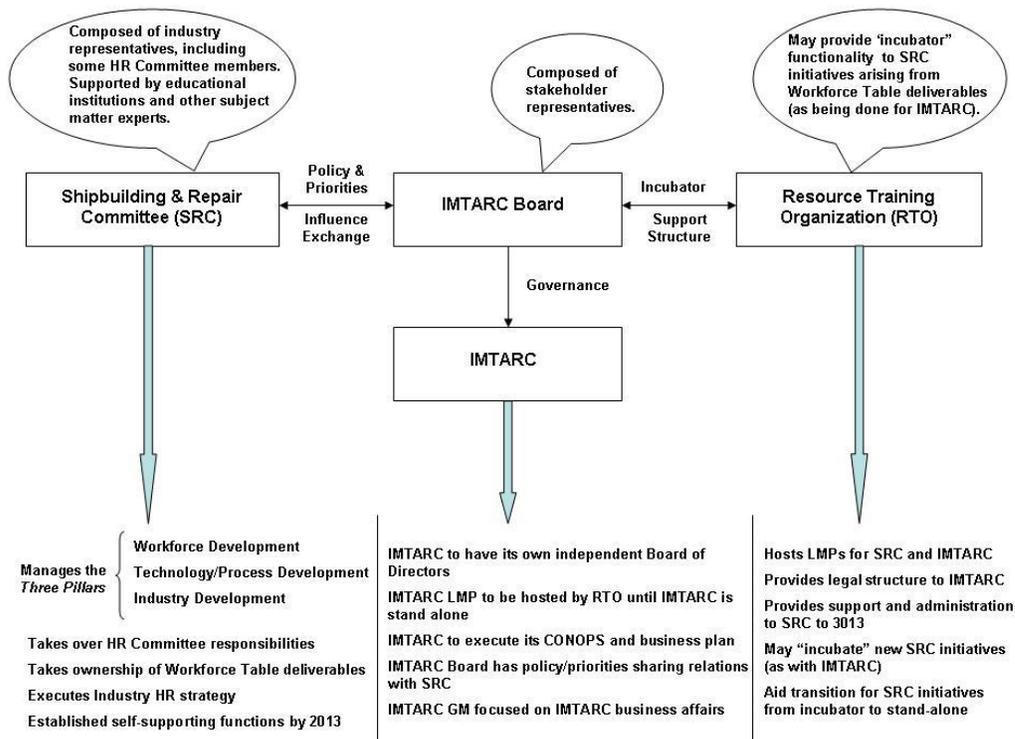
- a. IMTARC to have its own independent Board of Directors.
- b. IMTARC LMP continues to be hosted by RTO until such time IMTARC becomes a stand-alone entity.
- c. IMTARC to execute its CONOPS, and business plan.
- d. IMTARC Board to have policy and priorities sharing relations with SRC.
- e. IMTARC GM focussed on IMTARC business affairs.

3. WCSRF and PCSA to continue as unrelated and separate entities. Their terms of reference will need to be reviewed to address overlap with the SRC.

4. RTO requested to continue providing “incubator” support for SRC and its initiatives until self sufficiency achieved, much as was done for IMTARC.

5. Areas of early focus for the SRC include:

- a. Setting its terms of reference
- b. Attaining self sufficiency
- c. Managing Workforce Table deliverables
- d. Working synergistically with IMTARC
- e. Advising and advocating with MSIBs as appropriate
- f. Provide guidance, coordination and oversight for \$5M BC Government allocation to industry sector.



Below is a pictorial representation of the post Workforce Table Industry Leadership and Coordination Structure as ratified by the industry in July 2012.

The last part of this document provides suggestions for outcomes and performance measurement and for Strategy implementation; and ends with a short conclusion section.

## ACKNOWLEDGEMENTS

I would like to take this opportunity to thank all BC Shipbuilding & Repair Workforce Table members for their work over the last seven months. This has been an intensive, condensed process. I appreciate members making the time during and between each meeting while being extremely busy within each of their organizations.

### BC Shipbuilding & Repair Industry Workforce Table

Name	Organization
Barker, Malcolm	Seaspan Victoria Shipyards
Baskerville, Shannon	Ministry of Jobs, Tourism & Innovation
Bekkering, Hank	Point Hope Maritime
Briggs, John	Western Economic Diversification Canada
Dangerfield, Paul	BC Institute of Technology
Collins, Mark	BC Ferries
Fitzpatrick, Jim	Boilermakers Union Local 191
Hansen, Darryl	Babcock Canada
Hodgson, Colleen	Metis Skills and Education Centre, Director of Education
Louise Anne Granger	Canadian Coast Guard (Pacific Region)
Jochen, Kerry	Table Working Group
Lewis, Ian	Seaspan Shipyards
Lust, Matthew	Construction & Specialized Workers' Union Local 611
Macintosh, Richard	Boilermakers Union
MacLaren, Doug	Resource Training Organization
MacPherson, George	Marine Workers Union
McLaren, Malcolm	Allied Shipbuilders
Milne, Jim	Esquimalt Graving Dock, Public Works & Government Services Canada
Minty, Dawn	Ministry of Advanced Education
Ng, Keok	Deas Pacific Marine, BC Ferries
Okabe, Allan	Ganhada Management Group
Rumpel, Steven	Colleges & Skills Development Branch, Ministry of Advanced Education
Roemer, Tom	Camosun College
Rogers, Des	Federal Government Dockyards, Trades Labour Council
Rueben, Capt. (N) Alex	Resource Training Organization
Schulz, Tammy	Western Economic Diversification Canada
Sehn, Eric	School of Trades & Technology, Camosun College
Shaw, John	Seaspan Shipyards
Smith, Capt. (N) Don	FMF Cape Breton, RCN
Smith, John	FMF Cape Breton, National Defence
Scales, Rob	Industry Training Authority
Stevens, Geoff	IMTARC
van Wachem, Ron	The Nanaimo Shipyard Group
Westran, Joan	Ministry of Jobs, Tourism & Innovation
Wright, Don	BCIT/Trades Training Consortium

While all Table members contributed significantly, I would like to make special mention of the following individuals:

- To Jude Fawcett for her capable, reliable support as the Table Secretariat;
- To Allan Okabe and Ron Holmes for their work on the Aboriginal and Stakeholder Engagement Strategies, respectively;
- To Mark Collins for bringing together industry members to develop recommendations for an industry leadership body to oversee completion and implementation of this Strategy;
- To Shannon Baskerville and Dawn Minty and their respective colleagues for their ministries' support and advice;
- To Doug MacLaren and other RTO staff for hosting the Table and their administrative support.

Sincerely,

Alex Rueben  
Table Chair

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## 1. INTRODUCTION

### 1.1 The Impetus

In October 2011, the federal government announced the results of the National Shipbuilding Procurement Strategy (NSPS), identifying Seaspan Marine Corporation of British Columbia as one of two successful proponents on the federal government's \$33 billion program to construct combat and non-combat vessels for the federal government (vice Coast Guard) over the next 20 years. Seaspan was awarded the rights to construct non-combat vessels over 1,000 tonnes for the federal government, an agreement that could eventually see \$8 billion in shipbuilding contracts. Early estimates suggested that the NSPS program would inject billions into the provincial economy and create an average of 4,000 direct and indirect jobs for the province.



This Workforce Strategy has been developed by the BC Shipbuilding & Repair Industry Workforce Table (Table) as part of its mandate to prepare a coordinated workforce strategy that will inform private and public investments in future labour market development initiatives. The Strategy builds on research conducted by the Table in spring 2012 and previous industry consultations, identifying future workforce requirements based on planned investments through 2030, and challenges meeting occupational demands going forward. The Strategy is intended to be used as an action document with industry stakeholders, including public and commercial employers, businesses that supply services and equipment to the industry, federal and provincial government agencies, private and public training institutions, labour partners, and community partners.

Meeting the Shipbuilding & Repair Industry's (SRI) future requirements depends in large part on the participation and involvement of all stakeholders. In previous consultations, industry representatives highlighted the importance of cooperation and ongoing partnership between the various stakeholder groups for successful implementation of the Workforce Strategy. This includes members of the Table, as well members of the West Coast Shipbuilding & Repair Forum (WCSRF), and the Industrial Marine Training and Applied Research Centre (IMTARC). The WCSRF is a related industry body encompassing the broader industry on the west coast, while IMTARC has been established by the BC Resource Training Organization and Western Economic Diversification Canada to help coordinate future business opportunities and labour force development throughout the industry. Engagement of small and medium-sized enterprises (SMEs) in the

development process and leadership in its development and implementation have been identified as a priorities of this Workforce Strategy.

## **1.2 Shipbuilding & Repair Workforce Table Background**

The British Columbia Shipbuilding and Repair Workforce Table (the “Table”) was created by Premier, the Honourable Christy Clark, in November 2011 to work with industry to capitalize on the \$8 billion National Shipbuilding Procurement Strategy (NSPS) agreement awarded to Seaspan Shipyards, as well as several other major shipbuilding and repair projects in British Columbia. The Table will conclude its work by June 30, 2012, with the completion of an industry-wide workforce strategy.



The Table will develop a workforce strategy that will inform post-secondary training institutions and programs needed to support the sector. The Table is also responsible for delivering a Competitiveness and Productivity Road Map underpinning a viable and competitive shipbuilding and repair industry on Canada’s West Coast that can provide high quality, reliable and innovative services to domestic and international customers.

The broad goal of the Table is to ensure that the shipbuilding and repair sector in B.C. will have the right numbers of workers, with the right skills, in the right places, and at the right time to enable the expansion and enhanced competitiveness of the entire sector.

Importantly, the Table will be an essential mechanism to integrate and coordinate important current and planned workforce initiatives and maximize their return on investment and impact.

The general mandate of the Table is to:

1. Confirm the overall human capital requirements (i.e. labour demand) associated with the recent \$8 billion National Shipbuilding Procurement Strategy (NSPS) contract award and other significant projects and activities in the sector;
2. Review labour supply projections/sources and existing and planned training and other related programs and initiatives to identify opportunities and gaps; and
3. Develop a coordinated workforce strategy that will, in part, inform private and public investments in labour market programs needed to support the sector.

The Table will develop a plan that clearly defines the mandates and relationships of the various entities that will continue to exist after the mandate of the Table concludes. It will also conduct further industry engagement with Aboriginal peoples and communities and other stakeholders with an interest in the shipbuilding and repair industry.

In addition to the Road Map project, the Table's major piece of work is having R.A. Malatest & Associates Ltd. to determine the current and future labour market demand, supply and gaps, and the implications for training and other human resource strategies.

The Table is composed of several senior representatives of shipbuilding and repair industry members, federal and provincial governments, post-secondary education, and Aboriginal people. The Table was chaired by Alex Rueben; its working group was chaired by Table Project Manager, Kerry Jothen; and the Table Secretariat was managed by Jude Fawcett.

### **The Table Process**

The Table activities leading up to the development of this Strategy included the following:

- Four Table meetings;
- Working Group meetings, conference calls and support work;
- A major Labour Market Demand-Supply Project;
- A major Competitiveness & Productivity Road Map Project;
- Engaging and obtaining input from Aboriginal organizations;
- Engaging and obtaining input from stakeholders; and,
- Communication and media relations, including wide distribution within and outside the industry of three e-newsletters.

The development of this SRI Workforce Strategy drew heavily on the results of the two major Table research projects. R.A. Malatest & Associates ("Malatest") was retained by the Table in January 2012 to determine the current project industry workforce and identify skills and training gaps by occupation that may impact future workforce development. Its tasks included the following:

- Analyze existing data;
- Estimate baseline employment;
- Conduct employer and supplier surveys;
- Estimate new build, refit and maintenance investments;
- Develop a labour demand forecast;
- Develop an inventory of education and training programs related to the industry;
- Conduct a labour supply-side analysis;
- Conduct a labour demand-supply gap analysis; and,

- Submit a comprehensive final report and recommendations.

The Table retained Economic Growth Solutions in February 2012 to develop a Competitiveness and Productivity Road Map of the industry. The broad goal of the project was to develop a strategy for the SRI in BC to improve its productivity and competitiveness through:

- The identification, assessment, and, where appropriate, adoption of new business process technologies, engineering system technologies, shipyard production technologies and new materials and product technologies; and
- The identification and recommendation of programs and systems to ensure that the workforce has the required skills and knowledge to apply the technologies in the maintenance, repair and construction of ships for government and commercial clients.

While this Workforce Strategy is focused on workforce and human resource needs and priorities, SRI workforce and human resource strategies are inextricably tied to supporting the industry's development of technology and productivity strategies.

In addition to these two major projects, the Table's work on consulting with Aboriginal groups and stakeholders has also informed this Strategy.

The Table's work was six months of intensive work by its members, consultants, industry representative, industry stakeholders and others. Considering meetings, surveys, interviews and other discussions, this SRI Workforce Strategy has been informed by over 100 informed individuals. Another approximately 500 individuals were provided with information on the Table and had opportunities to provide input, particularly over the last four months.

### **1.3 Structure of the Shipbuilding & Repair Workforce Strategy**

The rest of this Strategy document addresses the following fundamental workforce questions:

1. What is the current state of the industry and its workforce? (SWOTs, challenges, gaps, etc.) – Sections 2 and 3
2. Where should be the state of the industry and its workforce in 8-10 years? (vision, principles, long-term goals) – Section 4
3. How can we effectively and efficiently advance from the current to desired state? (strategies, tactics, resources, timelines, etc.) – Section 5
4. What should be our implementation strategy for executing the Strategy? (leadership, consolidation, coordination) – Section 6

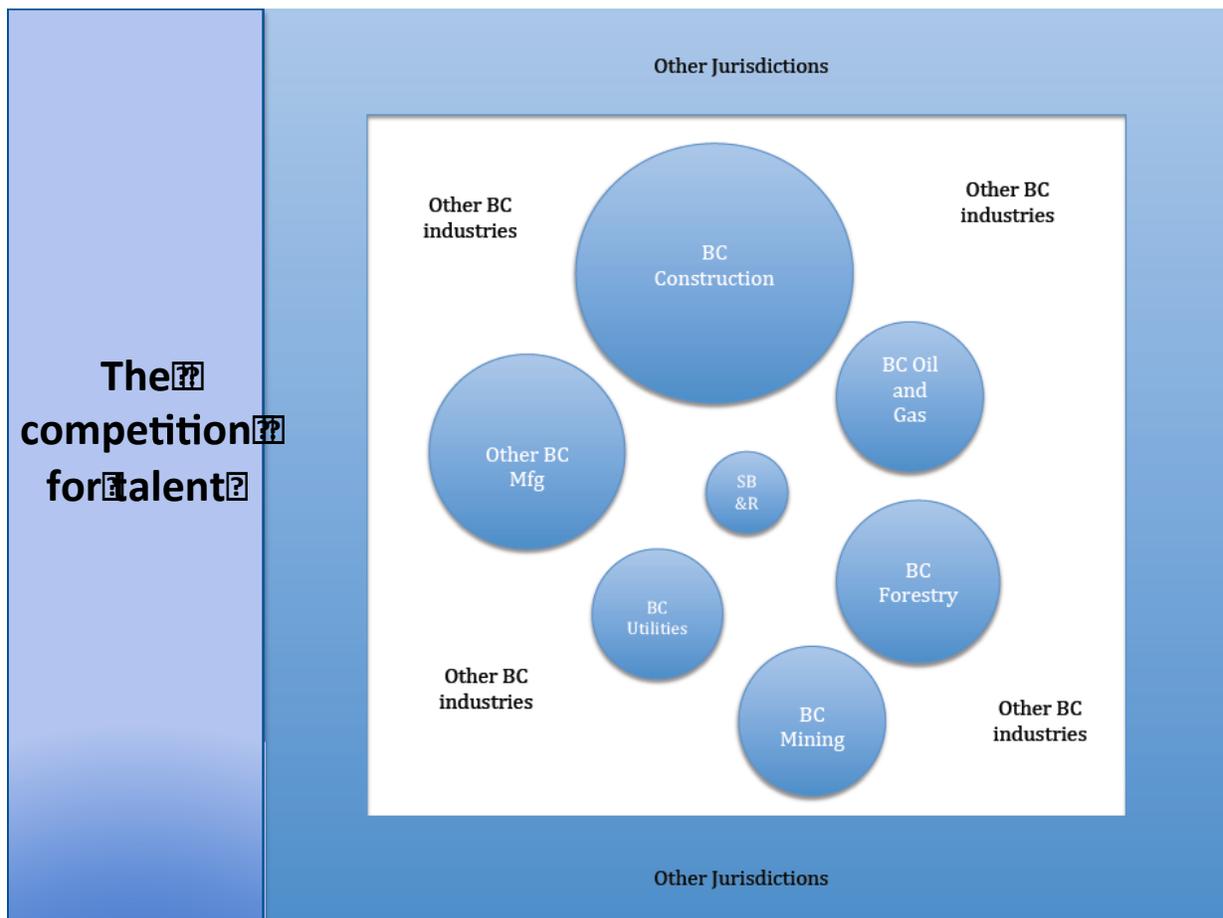
Section 7 is a short conclusion section, following by appendices.

## 2. PROFILE OF BRITISH COLUMBIA'S SHIPBUILDING & REPAIR INDUSTRY

As Figure 1 illustrates, the BC shipbuilding & repair workforce challenges cannot be reviewed in isolation from the bigger picture of the workforce requirements of other industries and other jurisdictions. While the Malatest Report will show predicted significant growth in employment and job openings in shipbuilding and repair, the sector's needs are dwarfed by other industries in and outside of BC that are vying for the "hearts and minds" of young people and potential workers.

For instance, over the last decade, BC's resource sector accounted for between 54% and 58% of the province's goods producing sector. Between 2001 and 2010, resource sector GDP increased by 21%, led by the construction industry (60%), mining (27%), oil and gas (25%).

**Chart 1: Positioning BC Shipbuilding & Repair in the Competition for Talent**



Over the same period, resource-based exports to other countries accounted for more than two-thirds (68%) of total provincial exports in 2010, up from 62% in 2001. BC exports averaged \$31.5 billion annually, ranging from a low of \$25.5 billion in 2009 to a high of \$35.6 billion in 2005. BC exports have begun to rebound following the global economic downturn in 2008/09.

The Province has targeted to have three LNG facilities in operation in the Kitimat area by 2020 (the first by 2015). This could mean:

- Over \$20 billion in direct new investment;
- 9,000 new construction jobs;
- 800 long term operational jobs and thousands of indirect and induced jobs; and,
- Over \$1 billion in additional government revenues.

Similar levels of growth and activity are being seen in other oil and gas activity in BC, and in the BC mineral exploration and mining industry.

## **2.1 Definition/Scope**

BC's SRI comprises establishments primarily engaged in operating a shipyard. The activities of shipyards include the construction of ships, repair, conversion and alteration, the production of prefabricated ship sections and barge sections, and specialized services when performed at a shipyard. The BC industry is dominated by one large commercial operator (Seaspan Marine Corporation), one large public employer (Navy shipyard – FMF Cape Breton) and a number of smaller shipbuilding and repair facilities throughout the Lower Mainland and Vancouver Island/Coast.

The industry is served by a range of suppliers of equipment, materials and services, including manufacturers of fabricated metal products not produced at a shipyard. Metal fabricators are key suppliers to the industry, and their workforce requirements are very similar to that of the shipbuilding and repair industry. For purposes of the workforce strategy, metal fabricators (i.e., Other Plate & Fabrication) located in the Lower Mainland and Vancouver Island/Coast are included in the industry "cluster", in addition to shipyard operators directly involved in the construction, alteration, maintenance and repair of ships and ship sections.

## **2.2 Industry Outlook**

As indicated, last fall, Seaspan was awarded the rights to construct non-combat vessels over 1,000 tonnes for the federal government, an agreement that will eventually see \$8 billion in shipbuilding contracts, starting with the construction of seven identified vessels. In addition to the national program, the industry faces several other important growth opportunities, including renewal of the BC Ferry fleet, construction of federal vessels less than 1000 tonnes, and increasing maintenance and repair activity in the cruise ship industry.

On average, the commercial BC industry generated revenues of \$265 million each year between 2004 and 2010. The large majority of revenue is generated through maintenance, repair and refit activities, including significant expenditures allocated in support of federal and provincial fleets.

Factoring in shipyard business undertaken at public facilities, total economic activity for the industry in 2011 was \$433 million.

BC's shipbuilding and repair industry is poised to see total program investment more than triple by the middle part of the decade. Total planned investment over this period is estimated at more than \$9.9 billion, with the majority (68%) dedicated to the new build program under the NSPS, and more than 20% allocated to maintenance and repair activities. Based on the NSPS and related activities, BC's shipbuilding and repair industry could transform into a billion dollar per year entity for public and commercial shipyard operators in BC.

Between 2012 and 2020:

- Total investment in new build construction is estimated at \$6.75 billion (68%);
- Total investment in vessel maintenance and repair is estimated at \$2.0 billion (20%);
- Total investment in vessel refit is estimated at \$593.0 million (6%); and
- Total investment in in-service support contracts is estimated \$503.0 million (5%).

## **2.3 Employment Outlook**



Between 2006 and 2011, employment among commercial shipyard operators averaged 2,003 workers. The majority of the workforce is comprised of skilled trades workers, including “marine” trades (e.g., shipwright, marine fitter) and “traditional” trades workers (e.g., pipefitters, metal fabricators, millwrights).

Based on Malatest's survey of public and commercial employers in spring 2012, BC's SRI workforce was estimated at 3,198 workers. Similarly, BC's Other Plate & Fabrication workforce is small with employment for the Lower Mainland and Vancouver Island/Coast estimated at 1,429 workers in 2012. As per Table 1, the combined workforce is dominated by workers in the trades (59%) and in manufacturing and utilities occupations (16%). The combined workforce in 2012 was 4,639 workers.

## **2.4 Projected Workforce**

Employment projections by occupation are based on anticipated growth through 2020. Overall employment demand in the shipbuilding and repair industry is projected to increase by 47% over the next four years, and by a total of 62% through 2020.

**Table 1: Shipbuilding & Repair and Other Plate & Fabrication Employment – 2012**

Occupational Category	Shipbuilding & Repair	Other Plate & Fabrication	Totals
Management	107	129	234 (5%)
Natural & Applied Sciences	189	71	259 (6%)
Business, Finance & Administration	367	186	555 (12%)
Trades, Transport & Equipment	2,085	686	2,760 (59%)
Marine Trades (Manufacturing & Utilities)	449	300	743 (16%)
Other	--	57	58 (1%)
<b>Total Employment</b>	<b>3,198</b>	<b>1,429</b>	<b>4,639</b>

Similar to the shipbuilding and repair industry, total employment in the other plate and fabrication sector is projected to increase steadily throughout most of the decade – more than doubling by 2017 to 2,900 workers. Employment growth is projected to occur primarily in the near term (2012-16), placing immediate pressure on employers to meet requirements through existing sources.

Shipyards employers indicated that more than one-quarter (26%) of the workforce is expected to retire by 2020, yielding an annual retirement rate of 3.3% through 2020. This compares to an annual attrition rate of 2.4% for all provincial industries in BC through 2017<sup>1</sup>. Based on economic growth and replacement demand, projections for BC's shipbuilding and repair workforce suggest more than 1,900 job openings will be available by 2016 and 2,800 by 2020. As per Table 2, an additional 957 job openings are projected for the other plate and fabrication sector estimate by 2016 and a total of 1,400 by 2020.

**Table 2: Shipbuilding & Repair and Other Plate & Fabrication Total Job Openings – 2016 and 2020**

Sector	Baseline	Total Job Openings	
	2012	2012-2016	2012-2020
Shipbuilding & Repair	3,198	1,926	2,838
Other Plate & Fabrication	1,429	957	1,399
<b>Total</b>	<b>4,627</b>	<b>2,883 (68%)</b>	<b>4,237 (100%)</b>

<sup>1</sup> COPS B.C. Unique Scenario 2007-2017

The combined number of projected job openings for the shipbuilding and repair cluster is 2,883 by 2016 and 4,237 by 2020, or close to 100% of the current combined workforce. More than two-thirds (68%) of projected job openings will occur in the next five years.

Malatest's survey of public and commercial employers, and labour organizations yielded 20 responses from a sample of approximately 40 employers and unions. Employers who responded to the survey accounted for more than 85% of the industry workforce. Key findings included the following:

#### *Shipbuilding & Repair Workforce*

- The total industry workforce is estimated at 3,198 workers, two-thirds of which are employed by commercial shipyard operators;
- The industry workforce is dominated by workers employed in traditional (66%) and marine trades (14%);
- Nearly three-quarters (73%) of the current workforce possesses either a post secondary education or training credential;
- The current vacancy rate for the industry is 3.1%, with engineering technologists & technicians having the highest reported vacancy rate (24.4%) among all identified occupations;
- Industry employment is projected to increase by 47% over the next four years (4,701 workers), and by a total of 62% (5,189 workers) through 2020;
- More than three-quarters (77%) of the current workforce is at least 40 years of age, including 30% who are 55 years or older;
- 422 workers (13%) are expected to retire by 2016 and a 846 by 2020 (26%), yielding an annual retirement rate of 3.3% through 2020;
- Based on economic growth and replacement demand, 1,926 job openings are projected by 2016 and a total of 2,838 job openings through 2020;
- Traditional and marine trades occupations are projected to experience the largest number of job openings through 2020.

#### *Associated Workforce – Other Plate & Fabrication*

Local businesses operating in the Other Plate & Fabrication manufacturing (metal fabrication) sector are major suppliers to BC's SRI, providing metal fabrication services and products. Many of the workers employed in this sector require skills and training similar to the shipbuilding and repair workforce. As shipbuilding expands over the next decade, expectations are such that this sector will also grow and that demand for workers will commensurately increase.

- Based on secondary statistics, employment in the Other Plate & Fabrication sector for the Lower Mainland and Vancouver Island/Coast was estimated at 1,429 workers in 2012;

- Trades workers account for close to half (48%) of the sector workforce; workers in processing and manufacturing occupations account for 21%;
- Based on the province’s Input-Output model, employment for the sector is projected to increase steadily over the next decade, peaking at 2,954 workers by 2018, as a result of planned investments in the Shipbuilding & Repair industry;
- Based on economic growth and replacement demand due to retirements, 957 job openings are projected by 2016 and a total of 1,399 by 2020.

Table 3 summarizes the Malatest employment/jobs numbers and projections.

**Table 3: Shipbuilding & Repair Sector Employment and Job Numbers (2012-2020)**

Employment/Job Openings	Time Period	Shipbuilding & Repair Sector	Other Plate & Fabrication Sector	Combined Sectors
1. Employment Baseline	2012	3,198	1,429	4,627
2. Job Openings from New Employment	By 2016	1,503	753	2,256
	By 2020	488	234	722
	Total 2012-2020	1,991	987	2,978
3. Total Employment	By 2016	4,701	2,182	6,883
	By 2020	5,189	2,416	7,605
4. Additional Job Openings from Retirements	By 2016	423	204	627
	By 2020	424	208	632
	Total 2012-2020	847	412	1,269
5. Total Job Openings to be Filled	By 2016	1,926	957	2,883
	By 2020	912	442	1,354
	Total 2012-2020	2,838	1,399	4,237

## 2.5 Supply Projections

The BC Labour Market Scenario Model (BCLMSM) is a provincial forecasting model that provides supply and demand projections for individual occupations throughout BC’s eight economic regions. Malatest analyzed BCLMSM supply projections against projected job openings in high demand occupations within BC’s SRI (Lower Mainland and Vancouver Island/Coast regions).

Based on this model, skills gaps were projected in all occupations through 2016 and 2020, with the largest gaps projected in the traditional and marine trades (see Table 4). Analysis of training and education outcomes (i.e., unemployed graduates) and other sources of labour, including intraprovincial, interprovincial and international migrants, was undertaken to assess their potential in filling projected skills gaps.

**Table 4: Shipbuilding & Repair High Demand Occupations with Projected Largest Gaps – 2020**

High Demand Occupations	Job Openings 2012-2020	Gap 2012-2016	Gap 2017-2020
Supervisor, Trade & Related Workers	135	(45)	(76)
Machinist	34	(17)	(10)
Pipefitters & Sprinkler Installers	223	(167)	(48)
Plumber	55	(27)	(24)
Electrician	276	(165)	(92)
Welder (A/B)	451	(268)	(165)
Painter	66	(30)	(33)
Millwright	21	(12)	(5)
HD Mechanic	31	(19)	(10)
Machine Fitter	118	(88)	(18)
Mechanical Engineering (T&T)	32	(14)	(13)
Electrical/Electronic Engineering (T&T)	28	(16)	(8)
Manufacturing Manager	8	(3)	(4)
Purchasing Manager	7	(4)	(3)
Construction / Project Manager	31	(19)	(10)
Program Manager	11	(10)	(1)
Procurement, Logistics & Material Management	45	(26)	(10)
Job Estimating	25	(19)	(4)
Quality Assurance	33	(18)	(9)
Planning & Scheduling	39	(23)	(12)
Planning & Scheduling	39	(23)	(12)
Marine Fitter	293	(180)	(105)
Marine Engine Mechanic	110	(73)	(32)
Shipwright	56	(25)	(28)
Sand Blaster	88	(43)	(43)

It should be noted that at the time of drafting of this Strategy it was understood that the Ministry of Jobs, Tourism and Innovation would be releasing an updated labour market forecast in the near future. The Malatest numbers can be updated at this point during the early implementation of this Strategy.

## 2.6 Training Gaps & Outcomes Analysis

Malatest found that SRI employers identified BC's industry training system as the most important source of labour to the industry. With the exception of Engineering Technicians & Technologists, employers felt that the identified sources of labour were adequately meeting their needs *at this time*, yet problems were evident recruiting marine trades workers and specialized workers, including production management and critical function & support specialists.



Malatest's review of apprenticeship programming suggests that while the province's industry training system has some capacity to expand programming to help meet future demands for skilled trades workers in BC's SRI, there will also be competing demands from other industries for the same apprentices. Significant growth is forecast for industries such as Mining and Oil & Gas that will lead to competition among industries for similarly skilled workers and will challenge employers to recruit an adequate supply of skilled trades workers to meet future requirements.

Further, Malatest asserts that the planned construction of several major capital projects will further exacerbate the demand for skilled workers. The demands for skilled trades workers will strain the industry training system's ability to provide sufficient training opportunities for BC industries.

Changes to the traditional apprenticeship model, including innovative delivery and sponsorship models, must be used to help ensure that the SRI can take advantage of economies of scale within the traditional training system, indicates Malatest. Outside of the traditional Red Seal trades, skills gaps will persist in those occupations currently not supported by some type level of formal training or education programming.

As well as ramping up training volumes at appropriate times in the largest gap areas including construction electrician, welder, pipefitters and sprinkler installers, machine fitter and marine fitter occupations, the industry will need to work with training institutions on "marinizing" programs.

See specific training gaps identified by Malatest in the next section of this document.

## **2.7 Competitiveness and Productivity Road Map Perspective**

Economic Growth Solutions (EGS) found the following key workforce development issues in its "Road Map" project:

- Shortage of skilled tradespeople in key trades, particularly those with marine experience;
- Shortage of skilled management and engineers with shipyard experience;
- In addition to specific trades and skills shortages, there has been a lack of marine specific training available;

- The ongoing requirement for and cost of specialized training for workers for such things as the following: specialized equipment installation and repair; safety training; quality assurance and specialized inspections; new or specialized techniques such as one-sided welding and the use of new computerized machines and technology; new technologies incorporated into ship design;
- Shortage of skills in project management, estimating and scheduling is of particular concern; and,
- In connection with military vessels there is a need for skilled tradespeople and technicians with experience in weapons and warfare systems, command and control systems, surveillance systems, and highly specialized military vessels such as warships and submarines.

As a result of these and other findings, EGS recommended that the SRI Workforce Strategy should address the need for applied research and technology transfer for the following reasons:

- Internationally this is a strong focus with numerous shipbuilding technology and applied research centres. Therefore, there is a need to keep up with the competition.
- IMTARC's applied research and technology transfer component needs to be fully operationalized as an initial response to the international competitive situation.
- High quality applied research and technology transfer capabilities are already available at BC colleges and universities, but need to be coordinated within marine specific projects.
- A systematized approach is needed for best practices and technology identification and applied research and technology transfer project definition.
- Determining how best practices and technology adoption and transfer can be implemented within facilities and the workforce is critical.
- IMTARC's training and educational programming efforts will need to encompass the capability of developing specific training initiatives that arise from the implementation of the applied research and technology transfer projects.

Also, the NSPS creates an unprecedented opportunity for collaboration between universities, industry and government. For example, BC's research-intensive universities are uniquely placed to contribute graduates in areas such as engineering, business and science that have experience in the marine sector through co-operative learning, experiential learning and through incorporating marine components into existing educational programs. According to the Research Universities Council of BC:

"BC's research-intensive universities can also work with industry to develop new programs to meet the opportunities created by the capacity being built in the marine industry, programs such as marine architecture and marine engineering. Through research and scholarship, BC's research-intensive universities will work with industry

and government partners on new innovations that will meet the challenges of a modern and evolving marine industry.” (RUCBC response, July 18, 2012).

### **3. STRENGTHS, WEAKNESSES, OPPORTUNITIES & THREATS AND STRATEGIC CHALLENGES**

Before presenting a strategic direction for SRI workforce development and specific strategies and actions, this section provides a summary analysis of the industry’s strengths, weaknesses, opportunities and threats; and a set of high-level strategic challenges that this Strategy must address.

#### **3.1 SRI Workforce Strengths**

- The National Shipbuilding Procurement Strategy – Up to \$8 billion in shipbuilding and several hundred new jobs
- Diversity of employers involved – government, BC Ferries, commercial companies, all sizes of companies, small boat builders, labour
- Well-paid, interesting and challenging work
- Industry players are united and communicating; cohesion and dialogue
- Many of the HR issues have been identified
- There is general agreement on industry needs
- There is critical mass and geographical concentration in southern Vancouver Island and the Lower Mainland
- The experience base of a highly skilled existing workforce
- An industry commitment to workforce development
- The recently established Industrial Marine Training and Applied Research Centre (IMTARC)

#### **3.2 SRI Workforce Weaknesses**

- The average age of the workforce, weak succession planning, and the lack of bench-strength and unavailability of skilled workers, including highly qualified professionals
- Some training programs and funding are not responsive to industry needs (e.g. upgrading of skills, trades training, and lower/middle/senior management training)
- Little awareness of the industry in the general population and among job-seekers
- Industry is not seen as a secure or attractive option for new entrants
- Existence of small, medium and large players with different priorities; risk of fragmentation of effort (lack of role clarity)
- The challenge of attracting and retaining enough workers
- The need for proactive investment in workforce development

- Projecting workforce needs when changes can cause quick shifts – need to be flexible and be able to adapt
- The need for innovation and a lack of applied research
- Productivity challenges tied to training and operations
- No sector-wide marketing plan to attract people from other countries and provinces
- Lack of workforce diversity

### 3.3 SRI Workforce Opportunities

- Increased business and labour demand from NSPS creating steady, stable employment, smoothing out boom and bust cycles; also existing demand on Vancouver Island
- Use NSPS to raise public awareness
- Federal and provincial government awareness, support of and commitment to the industry
- Location lifestyle
- Working with training institutions and employment service providers to conduct training and fill vacancies
- Creating new skill sets to respond to high technology needs and add benefit to all areas of the industry (“a ship as a city” – electrical, water, steel, accommodation, etc.)
- To use the “grey tsunami” to fill short-term needs
- Attract workers from other industries
- Use industry growth to promote relocation to Victoria
- The industry is more attractive as a career in terms of its technology

### 3.4 SRI Workforce Threats

- Losing potential long-term employees because of lack of long-term guarantees/steady employment – past boom/bust trend and fluctuating demand
- Competition for talent from other major projects and industries (e.g. forestry coming back, mining, oil and gas, etc.)
- Changes in government (election, public policy, etc.)
- Instability (global and economic)
- Funding for trades training (or for ITA); public training dollars are shrinking
- Flexible government policies on immigration
- Brain drain – especially from U.S. and other international competition
- Cost of living in Victoria and Vancouver (especially for young families)

This SRI Workforce Strategy is presented as a positive tool for maximizing the opportunities of the industry’s renaissance of the last few years and the expected growth of the next few decades. BC’s shipbuilding and repair industry faces a *once-in-a-generation* opportunity to revitalize

shipbuilding on Canada's west coast and to cultivate an industry that will serve shipyard owners, business suppliers, workers, communities and other stakeholders for generations to come.

*For businesses/employers, it is an opportunity.....*

- To plan with certainty a long term business and human resource development strategy;
- To modernize the workplace at all levels of operation, including small and medium size enterprises;
- To dispel myths about the industry as a “dying” entity with diminishing career opportunities for younger workers;
- To promote shipbuilding as a “manufacturing” industry in an urban area that is attractive to workers at all skill levels.

*For workers, it is an opportunity.....*

- To work with a diversity of employers in an industry with a long term business horizon;
- To access training opportunities that facilitate employment and career advancement;
- To secure a good paying and “family” supporting job in a dynamic industry;
- To work in a “growth” sector within a safe and stable community.

*For training institutions, it is an opportunity.....*

- To work with industry to help develop programming that promotes long-term competitiveness and productivity;
- To help create new skill sets to respond to the technology requirements associated with new vessel construction;
- To test and develop innovative methods of program delivery;
- To plan long-term institutional training and funding requirements.

*For governments, it is an opportunity.....*

- To have a single point of industry contact/focus;
- To help make decisions on public investments (including ITA funding) for training and employment programs;
- To obtain a better understanding of the SRI's needs;
- To better position governments to support industry growth and sustainability.

### **3.5 SRI Human Resource Challenges, Issues & Gaps**

Meeting future requirements will be challenged on several fronts, from replacing an aging workforce to attracting new workers from a narrowing pool of younger workers. Competition for

younger skilled workers is intense throughout the BC economy, highlighting the importance of recruiting, training and developing workers from within the industry.

“Competition for workers at all skill levels is increasing and the supply of younger workers is diminishing as the overall population ages. Employers are increasingly looking to other sources of labour to help meet future demand, including migrant workers from other parts of BC, Canada and internationally, while also increasing workforce participation rates among Aboriginal and other underrepresented workers. Compounding the challenge in meeting future requirements is the rapidly increasing level of planned investments in other industries that compete with BC shipyards for similar workers, including the construction, oil & gas, mining and related manufacturing sectors. Each of these sectors anticipates significant new investment over the next decade, which will serve to intensify the competition for talent among industries in BC and elsewhere.”

From “Risk Analysis” in *BC Shipbuilding & Repair Workforce Table Labour Market Research and Analysis Project*. R.A. Malatest & Associates Ltd. June 2012.

The shipbuilding and repair industry competes with several other industries for similar workers, including manufacturers that supply fabricated products to the industry. The demand for skills and training has reached a critical point, as alternative sources, such as hiring from other companies and industries, is no longer considered a viable long-term strategy.



New vessel construction is considerably more complex than maintenance and repair work that has characterized the industry for close to two decades. However, maintenance and repair work requires a more highly and broadly trained and workforce at all levels of production. Traditional

training practices will not be sufficient to meet the demands of the future “shipbuilding” workforce.

Private and public training institutions will be strained beyond capacity to provide training and upgrading opportunities to all industries and sectors that compete for skilled workers over the next decade and beyond.

### **Training Gaps**

R.A. Malatest & Associates concluded that the demand for skills and training encompasses all aspects of the planning and production process, from entry-level to management. Malatest pointed to a general understanding that training for all skilled and technical occupations requires

a marine focus, and that hands-on experience was central to successful training. The shipyard is becoming a more complex and modern workplace, driving the need for advanced skills and training to ensure competitiveness. Malatest identified the following training gaps/needs.

#### *Traditional Trades Training*

- Due to the reality of contract work in the industry, employers have tended to retain a smaller core of qualified workers and hired others on a temporary basis as needed. Apprenticeship training, as a result, has been conducted on a limited basis with many apprentices released prior to program completion. While formal trades training is well developed throughout the provincial training system, experience in the marine environment is considered equally important to ensuring a productive workforce.

#### *Marine Trades Training*

- Meeting future requirements in the marine trades is challenged by a lack of available formal training in all occupations. Workers in the marine trades typically rely on a mix of on-the-job training and formal training in a related training program. The absence of formal training programs for marine trades has resulted in an inadequate human resource succession plan for the industry. Development and integration of marine trades training within the province's industry training system is a key priority to meeting future workforce demands.

#### *Professional Engineers, Technologists & Technicians*

- British Columbia's post secondary system does not offer specific programming in naval architecture despite demand for graduates in BC. Perhaps there is an opportunity to address this through the NSPS value proposition. In Canada, Newfoundland's Memorial University (Fisheries & Marine Institute), Nova Scotia's Dalhousie University (Centre for Marine Vessel Development and Research), and Quebec's Institut Maritime du Québec are of the few Canadian institutions providing diploma and degree programs in naval architecture and engineering.
- Engineering technologists and technicians are in growing demand due to their ability to install and maintain specialized equipment for federal and provincial fleets. Commercial shipyards are also looking to recruit more specialized production workers due to the increasing complexity of manufacturing technologies, and in the construction of new vessels. While technology and technician programs are widely available in BC, programs are not specific to the marine environment.

### *Production Management and Critical Function & Support*

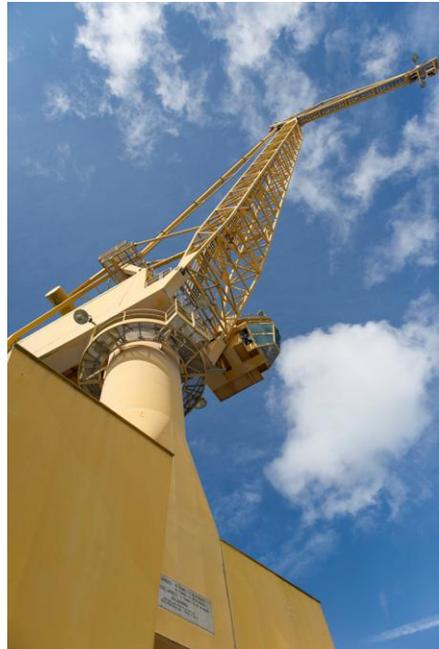
- Increasing demand for specialized production management and supervisory training is particularly evident in the current marine environment. Specific training gaps identified include production planning, estimating, purchasing, costing and project management. Limited public training programs that support these functions lack a marine focus, with little engagement from the Shipbuilding & Repair industry.
- Similar issues were raised with respect to the need for qualified supervisors to manage shipyard operations. Specific skills sets required include human resource management, information management, time management, budgeting, labour relations and communication. Marine specific management upgrading programs are considered essential to providing workers with the particular skill sets needed to become effective mid-management production and supervisory workers.

## **3.6 Strategic Challenges**

It is important to note that while a lot of the focus of Table discussions and its research have been on skills and training gaps, there are additional workforce challenges and gaps facing BC's SRI. From a thorough analysis of the findings, conclusions and recommendations of the Malatest and EGS reports, and from Table discussions and input from others, there are several fundamental strategic workforce challenges facing the BC shipbuilding & repair industry:

1. **Clear, effective industry leadership and roles and coordination** – There are a myriad of industry and stakeholders within and working with the BC SRI, without a clear leadership entity, clear roles for other players, and all moving in the same direction, this Workforce Strategy will not get off the ground, let alone succeed.
2. **Linking timing of strategies with timing of work requirements** – While the industry is gradually obtaining a clearer picture of human resource requirements over the next decade or so, the actual planning and implementation of training and other workforce strategies need to be rolled out in concert with the actual execution of shipbuilding and repair projects. Training institutions, other service providers and employers themselves need to take a rolling project planning approach to this. There will also need to be good, timely communication among demand and supply parts of the SRI labour market.
3. **Competition from other industries and jurisdictions** – This exists today and is expected to get even more difficult in the coming years. The SRI must clearly articulate and sell its workforce value proposition to potential workers and their influencers. SRI is small relative to many industries it competes with for talent – it risks losing out in the talent war unless the industry clearly and proactively promotes itself and its careers.

4. **Attraction to industry and careers** – The industry needs to fight for the “hearts and minds” of young people, other job-seekers and those who influence them. Its comparative advantages needs to be made clear and marketed strategically and continuously, while managing expectations.
5. **Tapping non-traditional talents pools** – This and other industries would be well-advised to have targeted strategies to tap under-utilized talent pools such as Aboriginal people, new Canadians, women, persons with disabilities, etc. In the context of current and future demographic forces and the need for diverse workforces, these worker sources represent a significant portion of the labour force in BC and other jurisdictions.
6. **Maintaining an industry-wide strategy implementation** – While each company or employer needs to take their own action, there are important priorities that can only be addressed by a collective of industry organizations. A multilateral approach will need to be maintained by the industry on strategic workforce issues.
7. **Training challenges** include the following:
  - a) **Develop new skill sets to match ship construction and technology skill requirements** – Existing and new training programs for the BC SRI will need to ensure reflects the new skills and knowledge required by workers because of new technology, processes, materials, and construction techniques. These new skills and knowledge and ways of organizing work need to be kept in mind in terms of helping existing workers adapt to the new world of ship construction.
  - b) **Need for new training programs** – While building on existing programs or “marinizing” some will work in many cases, the industry and training institutions must not rule out the need for new training programs. This will have to be looked at more closely in the coming months.
  - c) **Need for innovation in trades training models and delivery** – Due to the small but rapid-growth occupations in BC’s SRI, traditional training and delivery models will not work. For one thing, the traditional model relies on a training usually 4-5 years in duration, which would mean having to start now for skills needed in 2016. How training is structured and organized and how and where and when it is delivered will be important



success factors for SRI-specific training. BC's traditional apprenticeship model will not work for some of the occupations that will be in demand. A shipbuilding & repair tailored model will be needed, whether it is endorsements, flexible scheduling, modules, online theory training or other forms of flexible learning.

- d) **Embedding shipbuilding and repair-specific learning content in training** – While not all general technical and trades programs can be converted into shipbuilding and repair-specific models, at least some standardized SRI modules could be developed and integrated into such programs to better equip learners and apprentices with skills and knowledge needed in a shipbuilding and repair work environment.

Probably the most fundamental strategic challenge facing the SRI is the complex environment that has evolved in the industry in the context of presenting itself to governments (federal, provincial, municipal), direct/indirect stakeholders in private and public sectors, the media and the general public:

- Too many entities/efforts in the SRI sector that leads to confusion as to who is doing what;
- Too many entities/efforts to attend and participate in making it difficult to focus on and achieve proper attendance;
- Too many demands on those that participate in these entities/efforts;
- Conflicting and over-lapping mandates of various entities and efforts – not getting synergy and coordination between efforts;
- Not getting participation of small and medium enterprises;
- Not providing other stakeholders, communities, the media and the general public a single point of contact and a comprehensive representation of the industry; and,
- Not providing governments and other sources of support and funding for the industry, a single point of contact.

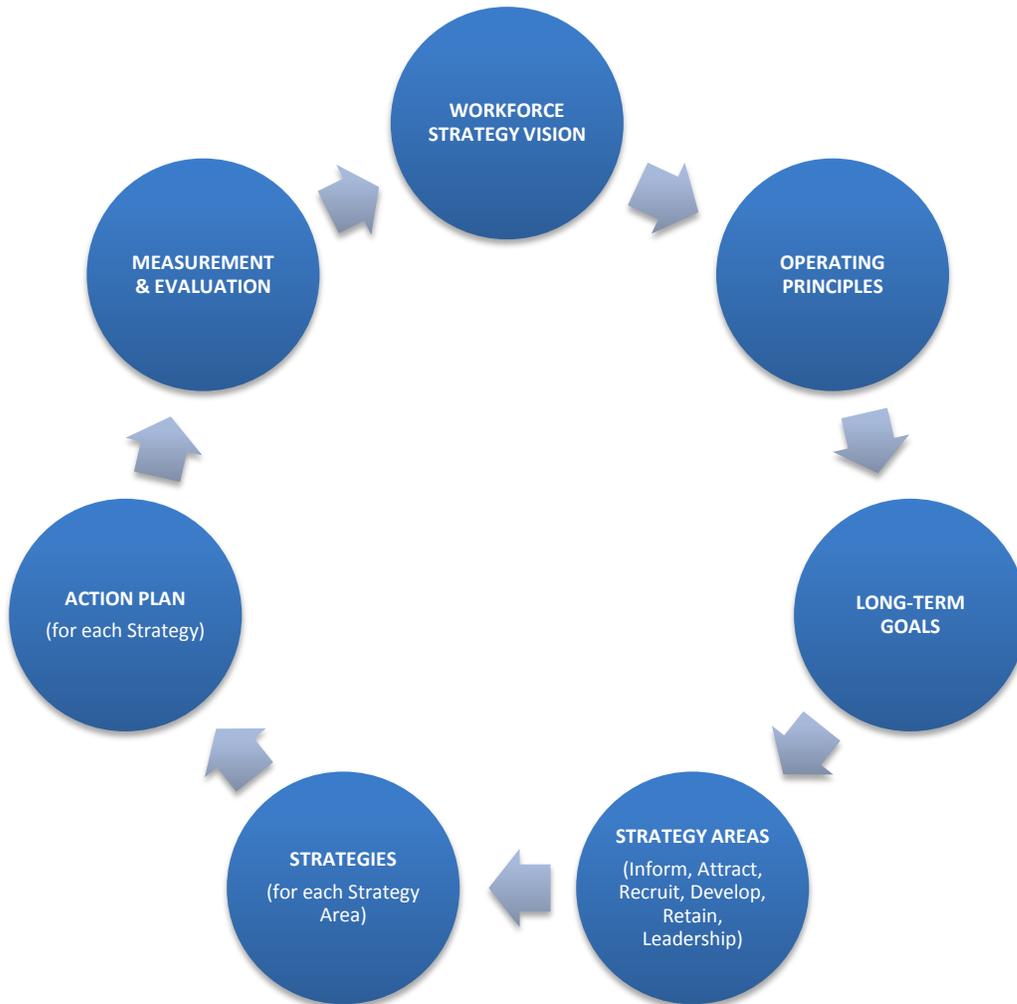
This will be addressed in sections 5.6 and 6 later in this document.

## **4. A BC SHIPBUILDING AND REPAIR WORKFORCE STRATEGIC DIRECTION**

Chart 2 displays a framework of the elements of the proposed British Columbia Shipbuilding & Repair Workforce Strategy. Each element will be described in more details in sections 4 and 5 of this document.

A successful sectoral workforce strategy needs to be based on an industries clear sense of where it as an industry and where its workforce as whole need to be in the longer terms – say the next 5 to 10 years for the Strategy. This must include a vision, and a set principles to guide how the Strategy is developed, implemented and measured. This strategic direction must also include a set of long-term or strategic and directional goals; and the key strategy areas should be identified.

Chart 2: BC Shipbuilding & Repair Workforce Strategy Framework



#### 4.1 Workforce Strategy Vision

The vision for this Workforce Strategy is that by 2020:

**The British Columbia shipbuilding and repair sector has the right numbers of workers, with the right skills, in the right locations, and at the right times to support productivity and technology transfer, and to enable the sector’s expansion, competitiveness and sustainability.**

#### 4.2 Workforce Strategy Principles

Presented below are guiding principles upon which the Workforce Strategy for BC’s Shipbuilding & Repair Industry will be developed and implemented.

### ***Industry Leadership***

Industry is the lynchpin to ensuring that the labour market needs of shipyard operators and supporting supply chain businesses are fully identified and addressed going forward. Success of the NSPS (and other shipbuilding and repair projects) will in large measure depend on industry's ability to implement effective strategies that meet the needs of business and the communities in which they serve.

### ***Industry-Wide Participation***

The NSPS provides the opportunity to transform BC's Shipbuilding & Repair industry into a modern and competitive enterprise, capable of building vessels and providing services beyond the current environment. Engaging all levels of operation including small, medium and large shipyard operators and suppliers will ensure the development of a comprehensive strategy where all interests are represented.

### ***Integrated Strategy***

While the NSPS represents the largest investment in BC's Shipbuilding & Repair industry, it is not the only source of business for the industry. Workforce development evolves from an industry business strategy that is focused on productivity and competitiveness. Future training and labour market development opportunities must be constructed within the industry's broader business strategy.

### ***Community Involvement***

Members of the local community are the single most important source of labour to the industry, and serve as a key basis of support for future developments. Workforce development opportunities that target local communities, including members from Aboriginal and immigrant populations, help promote long term sustainability and stability for the industry.

### ***Innovative Practices***

The training and other human resource needs in BC's Shipbuilding & Repair industry will require innovative, flexible responses by employers, training and other service providers, government agencies, partners and stakeholders. Traditional and off-the-shelf programs and services will not effectively address the unique needs and realities of this industry. The industry can build on the success of existing programs and of other industries by adapting how they are applied in Shipbuilding & Repair environments.

### ***Commitment to Training and Workforce Development***

The NSPS provides industry the opportunity to plan and develop the workforce force for the long term. Although near term pressures are significant, new training and labour market initiatives must be developed in the context of industry's long term requirements. Once in place, it is industry's responsibility to support these programs and its participants over the long term.

### 4.3 Long-Term (Strategic) Goals

By 2020, the BC Shipbuilding & Repair industry will:

1. Significantly increase the awareness and attractiveness of the BC shipbuilding and repair sector and its careers to young, other job-seekers and their influencers.
2. Develop a sizeable pool of skilled labour for the shipbuilding and repair sector and implement strategies to complement, enhance and support individual employer recruitment and retention of workers.
3. Create new and update existing marine-related training, education and upgrading programs that are innovative, flexibly delivered, appropriately time and can be readily accessed by shipbuilding and repair sector employers, workers and new entrants.
4. Continuously improve the quality, reliability and accessibility of shipbuilding and repair labour market information and regularly update the sector's labour market and training needs projections.
5. Directly link workforce development and the industry's applied research, technology transfer and productivity improvements.
6. Consolidate shipbuilding and repair sector organizations to create a leadership body, champion and coordinator for this Workforce Strategy.

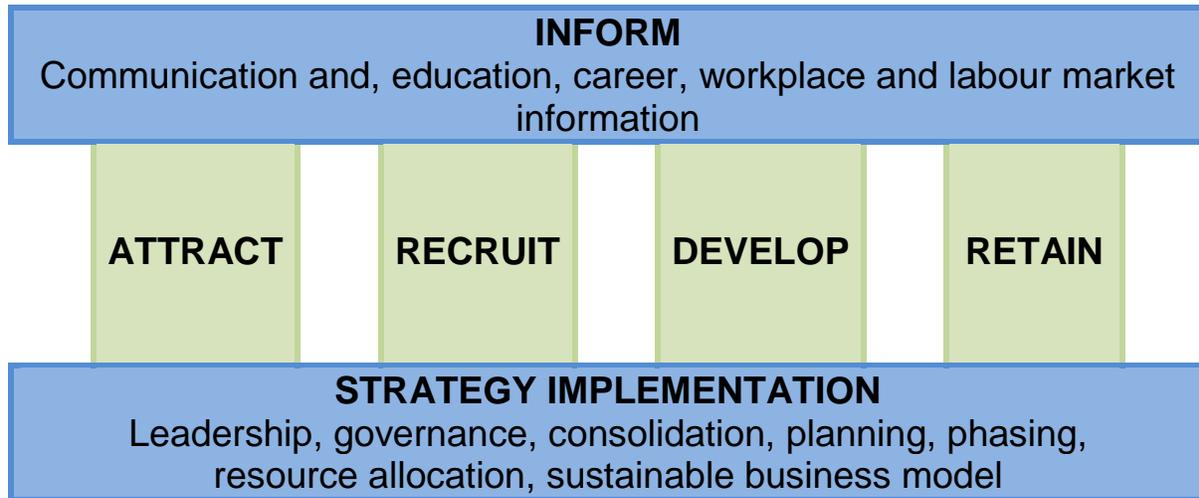


### 4.4 Workforce Strategies

There are six elements or themes of the BC Shipbuilding & Repair Workforce Strategy (visually presented in Chart 3):

1. **Inform** – Working with industry, education providers and community partners to inform and raise awareness of the benefits and career opportunities associated with BC's Shipbuilding & Repair industry, as well as developing reliable, user-friendly labour market information/intelligence and other information.

Chart 3: BC Shipbuilding & Repair Workforce Strategy Elements



2. **Attract** – Engage students, youth and job-seekers and their influencers on the benefits of working and having a career in Shipbuilding and Repair, and on the various training and certification pathways and mobility within and into the industry.
3. **Recruit** – Focusing on local sources of new workers and experienced workers with skills and qualifications applicable to the industry, as well as migrants from other parts of BC, Canada and internationally to fill gaps in higher demand occupations.
4. **Develop** – Developing and delivering marine-specific training and upgrading in support of entry-level, marine trades, production management and critical function occupations. Also considering changes or enhancement needed at the management and professional education levels by the industry.
5. **Retain** – Employer and industry initiatives that focus on promoting workers from within the industry, and other efforts to retain the existing workforce even during periods of slower economic activity.
6. **Strategy Implementation** – In order to succeed and be sustainable, questions about leadership and governance, reducing overlap/duplication/potential conflict, resource, communication need to be addressed through this strategy area.

As the visual shows, the Inform and Strategy Implementation elements of this Workforce Strategy cut across the four human resource elements of Attract, Recruit, Develop and Retain.

## 5. WORKFORCE STRATEGIES AND TACTICS



The following strategies have been identified to address future workforce requirements of BC's Shipbuilding & Repair industry. All activities will be coordinated and implemented by the leadership entity for this Strategy as well as partner organizations and service providers.

The strategies within each strategy area will vary as to whether they come into play in the near term (2013-2014), medium term (2015-2016) or long term (2017-2020 and beyond).

As part of the implementation phase of this Strategy, the strategies in each element of the framework will be prioritized within an action plan. Part of the implementation planning will be to identify early wins and specific action plans for each priority strategies. While it is hoped that all of the strategies provided herein will be implemented over the next five years, the leadership entity will need to prioritize and determine available resources for the most important, highest impact strategies.

Note that when "Leadership Entity" is referred to under "Leadership" or "Partners" in the following strategies, this is referring to the body that will lead and implement the strategy. This is discussed in sections 5.6 and 6 later in this document. Where a "Lead" is not identified in a strategy, should be assumed that the Leadership Entity will implement it with "Partners."

It should also be noted that a number of SRI workforce initiatives are in play and in order to reinforce the importance of continuing these they will be reflected in the following strategies. This is particularly the case for initiatives of IMTARC and the BC Shipbuilding and Repair HR Committee.

### Strategy Priorities and Timelines

Each specific strategy is prioritized in terms of impact, overall priority and timelines. In terms of timelines, strategies are grouped according to immediate-term (to start or complete by November 30, 2012); short-term (to start or complete by March 31, 2013); medium-term (to start

of complete by March 31, 2014); and long-term (to start or complete by April 2014 or later). Within each of these groupings, specific strategies are listed in terms of priority (potential impact and overall importance). For instance, the "immediate-term" strategy priorities are as follow (priority level in parentheses):

- Create an industry leadership structure to oversee and govern the execution of the BC Shipbuilding & Repair Workforce Strategy that is consistent with the recommendations of Table industry members. (P1)
- Develop and maintain a communication plan to announce and communicate about the BC Shipbuilding & Repair Workforce Strategy to British Columbians and others. (P2)
- Promote, brand and support IMTARC as the industry's training broker and expedite the development and implementation of the following new training programs. (P3)
- Create and support a Champions Table to develop a long-term targeted strategy to increase the training and employment of Aboriginal people in the industry. (P4)

The other short-term, medium-term and long-term specific strategies are prioritized on a draft basis and documented in detail in the Strategy document. Table 5 summaries these and then each specific strategy is provided in more detail after the table.

## 5.1 Inform

Information-sharing will play a vital role in addressing labour force pressures in the Shipbuilding & Repair industry. The *Inform* theme focuses on increased access to information to support informed decision-making on the part of employers, existing workers, youth entering the workforce, and other individuals considering employment in BC's Shipbuilding & Repair industry.

### 5.1 Strategies to Inform the Public and Targeted Audiences

#### 5.1.1 Develop and maintain a communication plan to announce and communicate about the BC Shipbuilding & Repair Workforce Strategy to British Columbians and others.

This would include:

- Setting clear communication goals
- Identifying clear communication messages
- Identifying key and secondary audiences for the Workforce Strategy
- Executing effective media relations and public events for Strategy milestones
- Providing brief reports on the Strategy performance
- Continuing to publish the e-newsletter started by the Table
- Continuing to inform British Columbians and those in other jurisdictions of the:

<ul style="list-style-type: none"> <li>▪ Importance of overall growth and economic impact of BC’s Shipbuilding &amp; Repair industry</li> <li>▪ Importance of the industry to local communities</li> <li>▪ Industry’s labour force challenges and job/training opportunities</li> </ul>			
<b>Partners:</b> <ul style="list-style-type: none"> <li>• Public and private employers</li> <li>• Industry associations and unions</li> <li>• Public and private training institutions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2012 and ongoing</li> </ul>	<b>Immediate-Term</b>	<b>Priority Level 2</b>

**5.1.2 Develop and execute an Aboriginal engagement strategy.**

This will include:

- Building on what was learned during the Table engagement
- Being guided by a Champions Table (see 5.2.3) direction
- Using Aboriginal “umbrella” groups to
- Collecting concrete, feasible recommendations from Aboriginal to guide future strategies within the Attract, Recruit, Develop and Retain strategy areas

<b>Partners:</b> <ul style="list-style-type: none"> <li>• Aboriginal organizations</li> <li>• Public and private employers</li> <li>• Industry associations and unions</li> <li>• Public and private training institutions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2012 and ongoing</li> </ul>	<b>Short-Term</b>	<b>Priority Level 1</b>
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**5.1.3 Develop and execute a stakeholder engagement strategy.**

This will include:

- Building on what was learned during the Table engagement
- Using stakeholder “umbrella” groups
- Ensure research universities and private training institutions are included
- Collect concrete, feasible recommendations from stakeholder groups to guide future strategies within the Attract, Recruit, Develop and Retain strategy areas

<b>Partners:</b> <ul style="list-style-type: none"> <li>• Stakeholder groups</li> <li>• Public and private employers</li> <li>• Industry associations and unions</li> <li>• Public and private training</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Short-Term</b>	<b>Priority Level 1</b>
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Table 5: Summary Table of Timeline and Priority of Specific Strategies

Strategy Area and Strategies	Timeline IT=by Nov 30/12 ST=by Mar 31/13 MT=by Mar 31/14 LT=Apr 14+ (Combined P)
5.6.1 Create an industry leadership structure to oversee and govern the execution of the BC Shipbuilding & Repair Workforce Strategy that is consistent with the recommendations of Table industry members. <b>(P1)</b>	IT (1)
5.1.1 Develop and maintain a communication plan to announce and communicate about the BC Shipbuilding & Repair Workforce Strategy to British Columbians and others.	IT (2)
5.4.1.2 Promote, brand and support IMTARC as the industry's training broker and expedite the development and implementation of the following new training programs.	IT/ST (3)
5.2.3 Create and support a Champions Table to develop a long-term targeted strategy to increase the training and employment of Aboriginal people in the industry	IT (4)
5.1.2 Develop and execute an Aboriginal engagement strategy.	ST (1)
5.1.3 Develop and execute a stakeholder engagement strategy.	ST (1)
5.4.1.5 Expand the scope of training for traditional trades to include a marine option (i.e., endorsement) for work in a shipyard.	ST (3)
5.2.4 Develop a dedicated industry website including information on shipbuilding & repair careers, jobs, education and training programs and best practices.	ST (6)
5.3.5 Develop a systematic approach and tools for promoting workers within the industry.	ST/MT (4)
5.4.1.7 Encourage more employers in BC's shipbuilding & repair industry to provide apprenticeship training opportunities and support apprentices in completing their programs.	ST/MT (5)
5.4.1.10 Support and encourage innovative delivery approaches for industry training.	ST/MT (7)
5.4.1.11 Develop targeted production management training programs specific to the industry and encompassing critical functions such as planning, job estimating, purchasing, logistics and materials management.	MT (3)
5.4.1.6 Develop formal upgrading programs to provide experienced productions workers with skills and knowledge to effectively transition into leadership roles (e.g. management, supervisory).	MT (5)
5.2.1 Develop a sustained and coordinated career promotional campaign targeted at promoting shipbuilding & repair career pathways to K-12 students, youth and influencers (i.e. educators, parents, peers, media).	MT (6)
5.4.1.1 Use the new leadership entity to advise post-secondary institutions on education and training strategies.	MT (7)
5.1.4 Develop and distribute relevant and reliable labour market data and intelligence.	MT (8)
5.2.2 Expand opportunities for students to get exposure to and gain work experience in the BC's Shipbuilding & Repair industry	MT (8)

Strategy Area and Strategies	Timeline IT=by Nov 30/12 ST=by Mar 31/13 MT=by Mar 31/14 LT=Apr 14+ (Combined P)
5.4.1.3 Support training (i.e., pre-employment and entry-level trades training) aimed at increasing the participation of underrepresented groups in the BC shipbuilding & repair industry.	MT (9)
5.4.2.1 Consider the implementation of appropriate recommendations of the EGS <i>BC Shipbuilding and Repair Competitiveness and Productivity Road Map Project Final Report</i> .	MT (10)
5.3.4 Develop a systematic approach and tools for integrating new workers at all levels into the industry.	MT (14)
5.4.2.3 Promote the adoption of new technologies and innovative business practices to improve labour productivity in BC's Shipbuilding & Repair industry.	MT/LT (7)
5.5.3 Develop and implement retention and transition strategies for older workers within shipbuilding and repair and for displaced workers from other industries.	MT/LT (13)
5.1.5 Promote awareness of shipbuilding & repair technology/process development and industry development issues and practices.	LT (6)
5.4.1.9 Work with training institutions, the Applied Science Technologists & Technicians of BC and national bodies on exploring the development of a marine option for existing mechanical and electrical technologist and technician programs.	LT (7)
5.4.2.2 Increase support for applied research related to new technologies and innovative manufacturing practices to improve productivity.	LT (7)
5.4.2.4 Continue efforts to research and promote best workplace health and safety practices and to identify new approaches to further reduce work-related injuries in the industry.	LT (7)
5.4.1.4 Advocate with the BC Ministry of Education for expansion and strengthening of vocational training programs in high schools to expose youth to BC's shipbuilding & repair occupations.	LT (8)
5.3.2 Support employers to focus recruitment in areas of high unemployment in BC and other jurisdictions in Canada before considering offshore recruiting.	LT (10)
5.3.1 Increase sharing of information about effective approaches for identifying pools of potential workers elsewhere in Canada and internationally.	LT (11)
5.5.1 Strengthen relationships between building and marine trades unions, employers and training providers to help ensure a sustainable supply of trainees, apprentices and experienced workers.	LT (11)
5.4.1.8 Examine the potential for partnering with other Canadian training institutions for the provision of naval architecture, design services and knowledge transfer.	LT (12)
5.5.2 Develop mentoring programs to support women, Aboriginal peoples and other underrepresented groups in the BC's shipbuilding & repair industry.	LT (13)
5.3.3 Continue to advocate for improved processes for credential and competency recognition.	LT (14)

**5.1.4 Develop and distribute relevant and reliable labour market data and intelligence.**

This will include:

- Occasionally updating the current occupational forecast as necessary
- Producing a “lay” summary of the occupational forecast and distribute widely within and outside the industry each year
- More clearly defining what kinds of labour market information would help employers and job-seekers make decisions, and then design LMI tools with which to provide these
- Working with the Ministries of Advanced Education and Jobs, Tourism and Innovation, and BC Stats on adapting their data for use by the industry and on ideas for improving the bi-annual Shipbuilding & Repair industry occupational forecast
- Tailoring labour market data and intelligence for various audiences (e.g. employers, training providers, job-seekers, etc.

Partners:	Timeframe:	<b>Medium-Term</b>	<b>Priority Level 8</b>
<ul style="list-style-type: none"> <li>• Public and private employers</li> <li>• Industry associations and union</li> <li>• Public and private training institutions</li> <li>• Government agencies</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

**5.1.5 Promote awareness of shipbuilding & repair technology/process development and industry development issues and practices.**

This will include:

- Communicating the findings and recommendations of the EGS report
- Using IMTARC as the vehicle for communicating and promoting awareness
- IMTARC reporting on progress

Partners:	Timeframe:	<b>Long-Term</b>	<b>Priority Level 6</b>
<ul style="list-style-type: none"> <li>• IMTARC</li> <li>• Public and private employers</li> <li>• Industry associations and unions</li> <li>• Public and private training institutions</li> <li>• Government agencies</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

## 5.2 Attract

The *Attract* theme relates to improving the image of the industry and its careers, and increasing awareness of the industry and its careers, among youth, job-seekers, workers and those who influence each group. Certain labour force groups should be prioritized and targeted.

### 5.2 Strategies to Improve Image of and Awareness about Shipbuilding & Repair Careers

**5.2.1 Develop a sustained and coordinated career promotional campaign targeted at promoting shipbuilding & repair career pathways to K-12 students, youth and influencers (e.g. educators, parents, peers, media).**

This will include:

- Building on the work of the BC S&R HR Committee
- Adapting best practices from other industries
- Developing and promoting clear education, training and career pathways
- Embedding industry information in K-12 curriculum (e.g. Career Planning 10)

Partners:

- Local/provincial high schools and school districts
- Ministry of Education
- Industry associations and unions
- Aboriginal Skills Employment and Training (ASET) agencies
- Parents groups
- Media

Timeframe:

- 2013 and ongoing

**Medium-Term**

**Priority Level 6**

**5.2.2 Expand opportunities for students to get exposure to and gain work experience in the BC shipbuilding & repair industry and become familiar with the nature of its work (i.e. high school vocational training, post-secondary co-op placements, internships, high school work experience placements).**

This will include:

- Making better use of existing programs (Secondary School Apprenticeship, ACE-IT, etc.)
- Promoting greater awareness of K-12 and ITA programs to employers and industry groups
- Link with schools and school districts to explore strategies for expanding student exposure to the industry

<b>Partners:</b> <ul style="list-style-type: none"> <li>Local/provincial high schools and school districts</li> <li>Ministry of Education</li> <li>Industry associations and unions</li> <li>Aboriginal Skills Employment and Training (ASET) agencies</li> <li>Public and private training</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2013 and ongoing</li> </ul>	<b>Medium-Term</b>	<b>Priority Level 8</b>
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**5.2.3 Create and support a Champions Table to develop a long-term targeted strategy to increase the training and employment of Aboriginal people in the BC shipbuilding & repair industry.**

This will include:

- Being co-chaired by Aboriginal and industry leaders
- Being composed of industry (including labour) and Aboriginal representatives, and one post-secondary representative and one ASET representative (both ex-officio)
- Using it as both a sounding board on key issues and the development of Aboriginal employment strategies
- Enabling industry-wide consultation and engagement with Aboriginal communities

<b>Partners:</b> <ul style="list-style-type: none"> <li>First Nations, Metis Nation BC, and other Aboriginal groups including ASETs</li> <li>Industry associations and unions</li> <li>Public and private training institutions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2012 and ongoing</li> </ul>	<b>Immediate-Term</b>	<b>Priority Level 4</b>
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**5.2.4 Develop a dedicated industry website including information on shipbuilding & repair careers, jobs, education and training programs, and best practices.**

This will include:

- Building on the website work of the RTO
- Determining how the website will be hosted and maintained
- Developing and executing a social media strategy
- A campaign to promote awareness and use of the website

<b>Partners:</b> <ul style="list-style-type: none"> <li>RTO</li> <li>Industry associations and unions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2012 and ongoing</li> </ul>	<b>Short-Term</b>	<b>Priority Level 6</b>
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<ul style="list-style-type: none"> <li>• Major employers</li> <li>• Public and private training institutions</li> <li>• Government agencies</li> </ul>			
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### 5.3 Recruit

“The Shipbuilding & Repair is collectively facing the dual challenge of replacing an aging workforce and meeting future requirements driven by investment. The demand for skills and training has reached a critical point for the industry, as alternative sources, such as hiring from other companies and industries, is no longer considered a viable long term strategy.”

BC Shipbuilding & Repair Workforce Table Labour Market Research and Analysis Project: Final Report. R.A. Malatest & Associates Ltd. June 2012

This theme relates to recruiting workers from outside the Lower Mainland and Vancouver Island/Coast to meet some of the demand for labour in the BC’s Shipbuilding & Repair industry. Working with industry, education providers and community partners to inform and raise awareness of the benefits and career opportunities associated with BC’s Shipbuilding & Repair industry.

#### 5.3 Strategies to Recruit Workers from Outside the Lower Mainland & Vancouver Island/Coast

##### 5.3.1 Increase sharing of information about effective approaches for identifying pools of potential workers elsewhere in Canada and internationally, and for bringing these workers to BC.

This will include:

- Sharing best practices with industry employers and industry groups
- Learning from other industries about successes in national and international recruiting
- Anticipating timing of when the industry might need to recruit beyond BC

<b>Partners:</b> <ul style="list-style-type: none"> <li>• Citizenship and Immigration Canada</li> <li>• Ministry of Jobs, Tourism and Innovation</li> <li>• Industry associations and unions</li> <li>• Contacts in other industries</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>	<b>Long-Term</b>	<b>Priority Level 1</b>
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**5.3.2 Support employers to focus recruitment in areas of high unemployment in BC and other jurisdictions in Canada and internationally.**

This will include:

- Identifying areas of high unemployment in Canada and elsewhere
- Working with industry associations and individual employers
- Considering partnering with other industries
- Partner with East Coast shipbuilding & repair employers and industry groups

Partners:	Timeframe:	<b>Long-Term</b>	<b>Priority Level 10</b>
<ul style="list-style-type: none"> <li>• BC Ministry of Jobs, Innovation and Tourism</li> <li>• Citizenship and Immigration Canada</li> </ul>	<ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>		

**5.3.3 Continue to advocate for improved processes for occupational credential and competency recognition for out-of-province and out-of-country workers seeking employment in the BC shipbuilding & repair industry to improve labour mobility (i.e., expansion of overseas foreign credential recognition).**

This will include:

- Working with government agencies
- Working with the ITA, professional associations and regulators
- Ensuring existing and new industry training programs have clear recognition or challenge options
- Encouraging employers and workers to complete recognition or challenge processes to obtain certification
- Building bridging programs or pathways to enable workers to obtain certification

Partners:	Timeframe:	<b>Long-Term</b>	<b>Priority Level 14</b>
<ul style="list-style-type: none"> <li>• Ministry of Jobs, Innovation and Tourism</li> <li>• Citizenship and Immigration Canada</li> <li>• ITA</li> <li>• Professional associations and regulators</li> <li>• Industry associations and unions</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

**5.3.4 Develop a systematic approach and tools for integrating new workers at all levels into the industry.**

This will include:

- Developing an industry generic orientation package
- Ensuring pre-employment training programs include up-to-date information on the industry and working conditions and what to expect
- Working with service providers to ensure they provide adequate information to clients regarding the industry and what to expect
- Promote a welcoming work environment and sensitivity to cultural and generational differences to employers, unions and industry associations
- Developing tools and resources for employers to use to integrate new entrants

Partners:	Timeframe:	<b>Medium-Term</b>	<b>Priority Level 14</b>
<ul style="list-style-type: none"> <li>• Public and private employers</li> <li>• Industry associations and unions</li> <li>• Employment service providers and ASETs</li> <li>• Public and private training institutions</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

**5.3.5 Develop a systematic approach and tools for promoting workers within the industry.**

This will include:

- Clearly defining pathways between occupations for workers to advance
- Making it easier for employers and workers to complete recognition or challenge processes
- Promoting the value of occupational certification to employers and workers
- Providing pre-recognition or pre-challenge upgrading opportunities before workers enter such processes
- Developing tools and resources for employers and workers to complete recognition or challenge processes

Partners:	Timeframe:	<b>Short-Term/ Medium-Term</b>	<b>Priority Level 4</b>
<ul style="list-style-type: none"> <li>• Public and private employers</li> <li>• Industry associations and unions</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

## 5.4 Develop

### 5.4.1 Develop – Workforce

“Conventional methods of building educational and training capacity will likely not be sufficient. Innovation in the delivery of education and training will be required to raise the productivity of the education sector and maximize scarce resources.”

*The World at Work: Jobs, Pay and Skills for 3.5 Billion People.*  
McKinsey Global Institute, McKinsey & Company. June 2012.

“Employers and stakeholders were consistent in their assessment of the need for specific marine training to meet current and future requirements...Investment in training and labour market development specific to the industry is no longer considered an option, but a requirement to grow and sustain the industry.”

BC Shipbuilding & Repair Workforce Table Labour Market Research and Analysis Project: Final Report.  
R.A. Malatest & Associates Ltd. June 2012.

The *Develop* theme has two components: The first focuses on developing BC’s Shipbuilding & Repair industry workforce through education and training; the second focuses on developing a high-performance work environment.

#### 5.4.1 Strategies to Develop a High-Performance Workforce

##### 5.4.1.1 Use the new industry leadership entity to advise the K-12 system and post-secondary institutions on education and training program and strategies.

This will include:

- Advising all types of public post-secondary institutions, K-12 system, private training institutions, Ministry of Advanced Education and industry
- The leadership entity creating a sub-committee to meet with post-secondary institutions
- The nature and frequency of meetings will depend on the programs and strategies being discussed

<p>Partners:</p> <ul style="list-style-type: none"> <li>• Leadership entity</li> <li>• Industry associations and unions</li> <li>• Public and private training institutions</li> <li>• Ministry of Advanced Education</li> </ul>	<p>Timeframe:</p> <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<p><b>Medium-Term</b></p>	<p><b>Priority Level 7</b></p>
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**5.4.1.2 Promote, brand and support IMTARC as the industry’s training broker and expedite the development and implementation of new and revised/updated training programs in line with when industry will need them.**

This will include the following programs:

- Marine Fitter Endorsement
- Shipwright Endorsement (Challenge only)
- Shipbuilding & Repair Industry Foundation Training Program
- Marine Upgrading Program
- Supervisory Training Program
- Dockyard Labourers Training Program

Partners:	Timeframe:	<b>Immediate-Term</b>	<b>Priority Level 3</b>
<ul style="list-style-type: none"> <li>• IMTARC</li> <li>• Local/provincial high schools</li> <li>• Public and private training institutions</li> <li>• Industry associations and unions</li> </ul>	<ul style="list-style-type: none"> <li>• 2012 and ongoing</li> </ul>		

**5.4.1.3 Support training (i.e., pre-employment and entry-level trades training) aimed at increasing the participation of underrepresented groups in BC’s shipbuilding & repair industry (i.e. Aboriginal peoples, immigrants, women and youth).**

This will include:

- Developing a marine industry orientation program to familiarize potential recruits of the opportunities for training and development in shipbuilding.
- Applying outcomes from Aboriginal and stakeholder engagement processes
- Reaching out to umbrella groups that represent such labour force groups
- Learning from other industries who are succeeding in this area
- Exploring the development of tools, mentorship and job coach strategies

Partners:	Timeframe:	<b>Medium-Term</b>	<b>Priority Level 9</b>
<ul style="list-style-type: none"> <li>• Local/provincial high schools and school districts</li> <li>• Aboriginal Skills Employment and Training (ASET) agencies</li> <li>• Immigrant Employment Council of British Columbia</li> <li>• Public and private training institutions</li> <li>• Government agencies</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>		

**5.4.1.4 Advocate with the BC Ministry of Education for expansion and strengthening of vocational training programs in high schools to expose youth to the BC shipbuilding & repair industry trades and help youth develop relevant industry skills.**

This will include:

- Promoting the articulation of programming between secondary and post secondary institutions.
- Developing and distributing within the K-12 system a *Career Planning 10 Shipbuilding & Repair* booklet.

Partners: <ul style="list-style-type: none"> <li>• Ministry of Education</li> <li>• Ministry of Advanced Education</li> </ul>	Timeframe: <ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>	<b>Long-Term</b>	<b>Priority Level 8</b>
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**5.4.1.5 Expand the scope of training for Red Seal trades to include a shipbuilding & repair option (i.e. endorsement) for work in shipyards.**

This will include:

- Using endorsements or add-on credentials after/during completion of the Red Seal trade
- Developing this training option for the dual purpose of facilitating the recruitment of skilled workers with experience in other industries and jurisdictions.
- Leadership from IMTARC

Partners: <ul style="list-style-type: none"> <li>• IMTARC</li> <li>• RTO</li> <li>• ITA</li> <li>• Public and private training institutions</li> <li>• Industry associations and unions</li> </ul>	Timeframe: <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Short-Term</b>	<b>Priority Level 3</b>
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**5.4.1.6 Develop formal upgrading programs to provide experienced production workers with skills and knowledge to effectively transition into leadership roles, including supervisory and operations management.**

This will include:

- Examining the existing program model as developed for the building construction industry as provided through BCIT, in conjunction with that offered by the Fisheries & Marine Institute (Memorial University).
- Leadership from IMTARC

<b>Partners:</b> <ul style="list-style-type: none"> <li>• IMTARC</li> <li>• RTO</li> <li>• ITA</li> <li>• Public and private training institutions</li> <li>• Industry associations and unions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Medium-Term</b>	<b>Priority Level 5</b>
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**5.4.1.7 Encourage more employers in the BC shipbuilding & repair industry to provide apprenticeship training opportunities and support apprentices in completing their programs (i.e. training completion incentives, employer recognition, etc.).**

This will include:

- Working with other industry stakeholders (i.e. unions, SMEs) to share training responsibility and apprentices, as necessary.
- Providing information on and promote employer use of various training tax credits and other training funding and resources.
- Exploring the creation of a recognition program to profile role model employers, best practices and effective partnerships

<b>Partners:</b> <ul style="list-style-type: none"> <li>• RTO</li> <li>• ITA</li> <li>• Public and commercial employers</li> <li>• Industry associations and unions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Short-Term/ Medium-Term</b>	<b>Priority Level 5</b>
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**5.4.1.8 Examine the potential for partnering with other Canadian training institutions for the provision of naval architecture, design services and knowledge transfer.**

This will include:

- Exploring the potential for co-op or work placement opportunities for students in existing Canadian programs, such as Newfoundland’s Memorial University (Fisheries & Marine Institute).

<b>Partners:</b> <ul style="list-style-type: none"> <li>• IMTARC</li> <li>• Public and private employers</li> <li>• Post secondary institutions (BC and Canada)</li> <li>• Industry, professional associations</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>	<b>Long-Term</b>	<b>Priority Level 12</b>
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**5.4.1.9 Work with training institutions, the Applied Science Technologists & Technicians of BC and national bodies on exploring the development of a shipbuilding & repair option for existing mechanical and electrical technologist and technician programs at BCIT and Camosun.**

This will include:

- Confirming the need for and feasibility of such a program
- Working with ASTTBC and the Technology Professionals Canada (TPC) and the Canadian Technology Accreditation Board (CTAB) for provincial and national accreditation
- If developed and approved, CTAB would accredit the training program and ASTTBC would certify individuals who complete the certification requirements
- Strengthening relationships with training providers to help promote career opportunities in the shipbuilding & repair industry for graduates of these programs
- Advocating with the Ministry of Advanced Education for base FTE funding for the program

Partners:	Timeframe:	<b>Long-Term</b>	<b>Priority Level 7</b>
<ul style="list-style-type: none"> <li>• IMTARC</li> <li>• ASTTBC</li> <li>• Public training institutions</li> <li>• Industry associations</li> <li>• TPC and CTAB</li> </ul>	<ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>		

**5.4.1.10 Support and encourage innovative delivery approaches for industry training.**

This will include:

- Coordinating with larger employers to utilize on-site facilities, as available
- Providing incentives to employers to provide underutilized facilities and equipment for training purposes
- Identifying priority training programs to be reconstituted into online delivery format
- Working with industry groups and the ITA to develop flexible, innovative delivery models for shipbuilding & repair training programs

Partners:	Timeframe:	<b>Short-Term/ Medium-Term</b>	<b>Priority Level 7</b>
<ul style="list-style-type: none"> <li>• IMTARC</li> <li>• Public and private employers</li> <li>• Public training institutions</li> <li>• RTO</li> <li>• ITA</li> </ul>	<ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>		

**5.4.1.11 Develop targeted production management training programs specific to the industry and encompassing critical functions such as planning, job estimating, purchasing, logistics and materials management.**

This will include:

- Examining similar programs currently offered at BCIT (e.g., operations management and supervision) and Memorial University for application in the BC Shipbuilding & Repair industry.
- Approaching professional organizations, such as the Project Management Institute (PMI) and the Institute for Certification in Production and Inventory Management (CPIM), for development and certification purposes.

Partners: <ul style="list-style-type: none"> <li>• IMTARC</li> <li>• RTO</li> <li>• ITA</li> <li>• Public and private training institutions</li> </ul>	Timeframe: <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Medium-Term</b>	<b>Priority Level 3</b>
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**5.4.2 Develop – Work Environment**

The second component of the *Develop* theme relates to developing high performance work environments in BC shipyards. This includes improving workplaces and work arrangements, increasing capital investment and technology adoption, and improving business processes. Development of these activities would be lead by the leadership entity for this Strategy.

**5.4.2 Develop a High Performance Work Environment**

**5.4.2.1 Consider the implementation of appropriate recommendations of the EGS BC Shipbuilding and Repair Competitiveness and Productivity Road Map Project Final Report as they apply to developing a high-performance workforce and work environment.**

This will include:

- IMTARC prioritizing the recommendations from the EGS report
- Working with training institutions and universities
- Working with industry associations

Partners <ul style="list-style-type: none"> <li>• IMTARC</li> <li>• Public training institutions and</li> </ul>	Timeframe: <ul style="list-style-type: none"> <li>• 2013 and ongoing</li> </ul>	<b>Medium-Term</b>	<b>Priority Level 10</b>
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<ul style="list-style-type: none"> <li>universities</li> <li>Industry associations</li> </ul>			
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**5.4.2.2 Increase support for applied research related to new technologies and innovative manufacturing practices to improve productivity.**

This will include:

- To be determined

<b>Partners</b> <ul style="list-style-type: none"> <li>IMTARC</li> <li>Public training institutions and universities</li> <li>Industry associations</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2013 and ongoing</li> </ul>	<b>Long-Term</b>	<b>Priority Level 7</b>
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**5.4.2.3 Promote the adoption of new technologies and innovative business practices to improve labour productivity in the BC shipbuilding & repair industry (i.e. project management, lean enterprise practices, human resource management).**

This will include:

- To be determined

<b>Partners</b> <ul style="list-style-type: none"> <li>IMTARC</li> <li>Public training institutions and universities</li> <li>Industry associations</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2013 and ongoing</li> </ul>	<b>Medium-Term/ Long-Term</b>	<b>Priority Level 7</b>
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**5.4.2.4 Continue efforts to research and promote best workplace health and safety practices and to identify new approaches to further reduce work-related injuries in the industry.**

This will include:

- To be determined

<b>Lead:</b> <ul style="list-style-type: none"> <li>Leadership Entity</li> </ul> <b>Partners</b> <ul style="list-style-type: none"> <li>IMTARC</li> <li>WorksafeBC</li> <li>Industry associations and unions</li> </ul>	<b>Timeframe:</b> <ul style="list-style-type: none"> <li>2014 and ongoing</li> </ul>	<b>Long-Term</b>	<b>Priority Level 7</b>
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## 5.5 Retain

The *Retain* theme relates to enhancing the attractiveness of working in BC’s Shipbuilding & Repair industry so that workers, including mature workers, immigrants, Aboriginals and those who may experience difficulty maintaining employment, remain engaged in the industry. Development of these activities would be lead by the leadership entity for this Strategy.

### 5.5 Strategies to Retain the Existing Workforce

#### 5.5.1 Strengthen relationships between building and marine trades unions, employers and training providers to help ensure a sustainable supply of trainees, apprentices and experienced workers.

This will include:

- Discussions among these groups
- Facilitation by the industry leadership entity (see 5.6)
- Working with the industry leadership entity in a coordinated, cohesive way to implement this Strategy

Partners:

- Leadership entity
- Industry associations
- Employers
- Unions and labour groups

Timeframe:

- 2014 and ongoing

**Long-Term**

**Priority Level 11**

#### 5.5.2 Explore the development of mentoring programs to support women, Aboriginal peoples and other underrepresented groups in the BC shipbuilding & repair industry.

This will include:

- Meeting with organizations who represent or work with these labour force groups
- Learn from successful models that exist in BC and elsewhere
- Explore the feasibility and merit of a pilot project to test this concept

Partners:

- IMTARC
- RTO
- Industry associations and unions
- Aboriginal and stakeholder groups

Timeframe:

- 2014 and ongoing

**Long-Term**

**Priority Level 13**

**5.5.3 Develop and implement retention and transition strategies for older workers within the shipbuilding and repair industry and for displaced workers from other industries.**

This will include:

- Discuss options for pursuing this with associations, employers and unions in and outside SRI
- Learn from successful models that exist in BC and elsewhere
- Prioritize keeping workers within SRI first before considering other industries
- Identify key occupations that are most relevant in such strategies

Partners:	Timeframe:	<b>Medium-Term/ Long-Term</b>	<b>Priority Level 13</b>
<ul style="list-style-type: none"> <li>• IMTARC</li> <li>• RTO</li> <li>• Industry associations and unions</li> <li>• Stakeholder groups</li> </ul>	<ul style="list-style-type: none"> <li>• 2014 and ongoing</li> </ul>		

**5.6 Leadership and Coordination**

“Develop a coordinated workforce strategy that will, in part, inform private and public investments in labour market programs need to support the sector.”  
 Shipbuilding & Repair Workforce Table Mandate – Premier Christy Clark, November 2011

As part of the Table’s mandate, it was tasked to:

Develop a plan that clearly defines and consolidates the mandates and relationships of the various entities that will continue to exist after the mandate of the Workforce Table concludes and defines the framework within which the Workforce Table deliverables will be implemented, integrated and supported by the shipbuilding and repair industry and stakeholders.

The Table has concluded that the SRI requires a structure to lead the implementation of this Workforce Strategy as well as to lead and coordinate efforts in moving forward with the industry’s Competitiveness and Productivity Roadmap. This leadership structure would also coordinate and provide oversight to an industry outreach and communications strategy. Implicit in these efforts is the provision of guidance and oversight of funding directed towards the SRI with the exception of funding within the mandate of the NSPS value proposition Maritime Sector Investment Boards.

Since 2006, the BC SRI has developed an array of different efforts to discuss, represent and action a variety of different issues that can best be grouped under three essential pillars deemed critical to sustain the industry as follows:



- Workforce development;
- Technology/Process development; and
- Industry development.

All of these efforts have some degree of overlap. There is overlap in membership and in whom these efforts involve and there is overlap within their terms of reference. This has led to confusion, both within and external to the SRI, as to the mandates of the various entities. It has also contributed to a lack of focus for supporting stakeholders (i.e. governments, post secondary institutions) to direct their respective efforts.

Based on what a leadership and coordination structure for the SRI is to do and the characteristics that it needs to incorporate, the following four options are put forward for consideration:

1. Use the West Coast Shipbuilding and Repair Forum (WCSRF);
2. Use the Pacific Coast Shipbuilding Association (PCSA);
3. Create a completely new organization called the *BC Shipbuilding & Repair Committee* (essentially rolling over the existing Workforce Table); or
4. Create a completely new organization called the *BC Shipbuilding & Repair Association*, by creating a new legal not-for-profit entity.

It should be noted that these options are based on the assumption that a leadership and coordination structure for the SRI needs to be developed in the near term – namely in the next several months. It is entirely possible that in the longer term, one of the options might evolve into another one of the options listed or into something entirely different. The name of what the leadership and coordination structure becomes might also be different than what is suggested in this report – this is simply a starting point.

## 5.6 Strategies to Ensure Effective Strategy Leadership and Coordination

5.6.1 Create an industry leadership structure to oversee and govern the execution of the BC Shipbuilding & Repair Workforce Strategy that is consistent with the recommendations of the Table industry members (see below).

This will include:

<ul style="list-style-type: none"> <li>▪ See steps 1 through 5 below</li> <li>▪ Holding an industry implementation planning session with participation from leadership entity members and other industry representatives and stakeholders</li> </ul>			
Partners:	Timeframe:	<b>Immediate-Term</b>	<b>Priority Level 1</b>
<ul style="list-style-type: none"> <li>• Industry Table member organizations</li> </ul>	<ul style="list-style-type: none"> <li>• As soon as possible (Fall 2012)</li> </ul>		

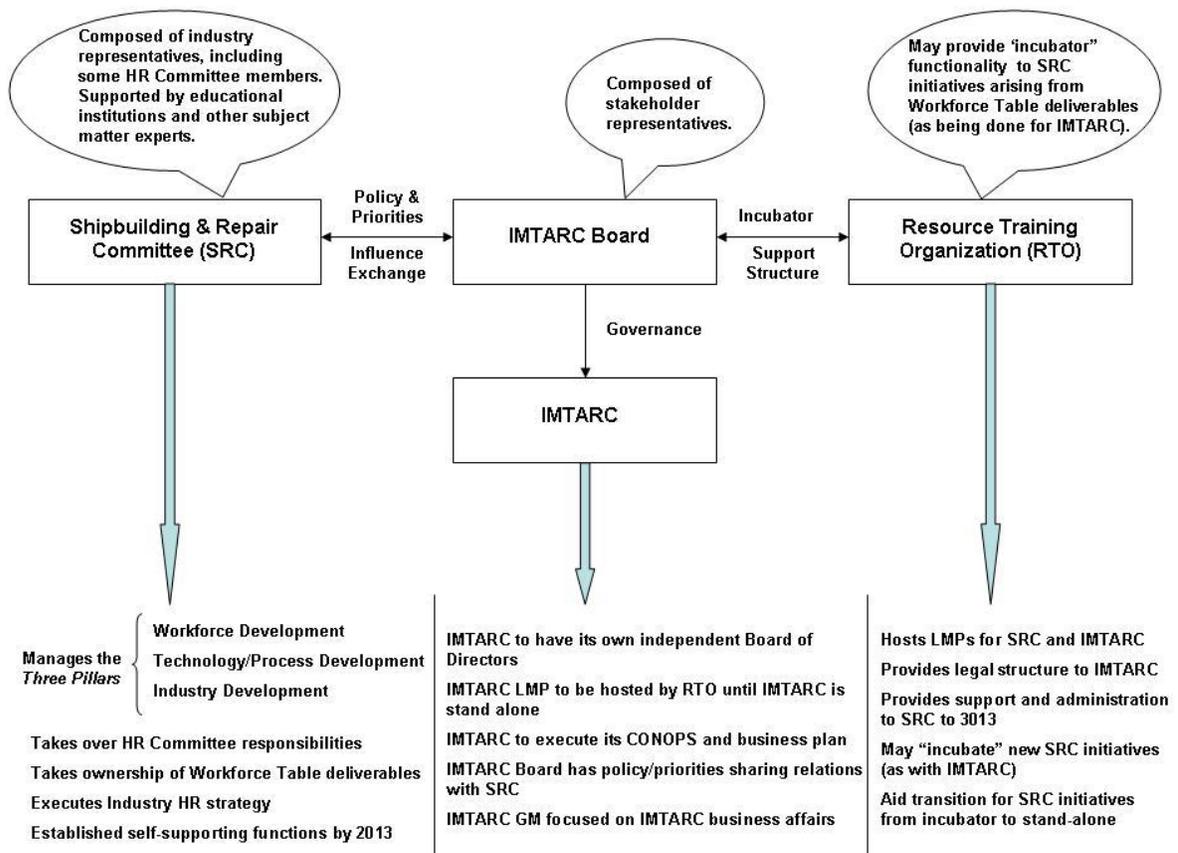
### Industry Leadership and Coordination Structure

1. Create a new body called the BC Shipbuilding & Repair Committee (SRC) (working title) with the following parameters:
  - a. Roll existing Workforce Table membership into SRC
    - i. Limit membership to one empowered representative per organization
    - ii. Educational institutions and other non-industry stakeholders to be “subject matter expert” non-voting participants
    - iii. Government departments (e.g. WED, JTI, AVED) to be ex officio participants.
  - b. SRC to be keeper and enabler of the Workforce Table deliverables, addressing the 3 pillars:
    - ii. Workforce development
    - ii. Technology/process development
    - iii. Industry development
  - c. SB&R Industry Human Resources Committee collapsed and duties absorbed by SRC.
  - d. SCR initially supported by the existing LMP (managed by RTO) but SRC will plan to achieve independent self-sufficiency before LMP ends in 2013.
2. IMTARC to exist as an independent entity.
  - a. IMTARC to have its own independent Board of Directors.
  - b. IMTARC LMP continues to be hosted by RTO until such time IMTARC becomes a stand-alone entity.
  - c. IMTARC to execute its CONOPS, and business plan.
  - d. IMTARC Board to have policy and priorities sharing relations with SRC.
  - e. IMTARC GM focussed on IMTARC business affairs.
3. WCSRF and PCSA to continue as unrelated and separate entities. Their terms of reference will need to be reviewed to address overlap with the SRC.

4. RTO requested to continue providing “incubator” support for SRC and its initiatives until self-sufficiency achieved, much as was done for IMTARC.
5. Areas of early focus for the SRC include:
  - a. Setting its terms of reference
  - b. Attaining self sufficiency
  - c. Managing Workforce Table deliverables
  - d. Working synergistically with IMTARC
  - e. Advising and advocating with MSIBs as appropriate
  - f. Provide guidance, coordination and oversight for \$5M BC Government allocation to industry sector.

Chart 4 provides a pictorial representation of the recommended SRI Leadership and Coordination Structure as ratified by the industry in July 2012.

**Chart 4: Proposed SRI Industry Leadership and Coordination Structure**



Once this leadership structure is implemented, it can then consider this Strategy, make any necessary changes or updates, develop an implementation plan and communication plan, and execute.

## **5.7 Outcomes, Monitoring and Measuring Performance**

As part of the implementation of this Workforce Strategy, a program logic table will be completed to identify inputs, activities, outputs and outcomes for each strategy area. For each outcome, indicators and performance targets will be set.

This Strategy will focus on setting metrics for the following types of key outcomes:

- More highly skilled workers – An increased supply of highly skilled, well-trained workers when the industry needs them throughout the NSPS and other shipbuilding and repair projects;
- Stronger cooperation between industry stakeholders and ongoing sharing of best practices;
- Youth continuing to choose careers in BC's Shipbuilding & Repair industry;
- New workers completing their apprenticeships and related training and upgrading;
- Employers embracing technology adoption and innovative manufacturing practices;
- Under-utilized groups, such as women, immigrants and Aboriginal workers are more proportionally represented in the industry;
- A high-performance work environment to maximize employment, training and retention and to support the industry's technology transfer, productivity increases and competitiveness;
- A human resource plan and strategies that are strategically linked to the industry's business plan and goal of long-term sustainability;
- The more efficient use and coordination of private and public funding and programs to achieve the goals and outcomes of the Workforce Strategy;
- Flexible, innovative training and education delivery and certification.

The Workforce Strategy leadership entity will work with stakeholders to monitor success on an ongoing basis. Lead organizations will report on their progress by sharing their achievements and best practices. By working together, BC's Shipbuilding & Repair industry can transform into a modern and competitive enterprise, supported by a dynamic and sustainable industry workforce.



## **6. WORKFORCE STRATEGY IMPLEMENTATION – TOWARDS 2020**

### **Implementation Considerations**

Once the industry leadership entity is in place, it will need to consider timelines, roles, resources, and other implementation considerations.

In addition to resources of the existing Labour Market Partnership agreements with the RTO for IMTARC and the BC S&R HR Committee, several possible sources of funding could be utilized by the industry and partners to resource various strategies. Some examples include the following:

- Other Ministry of Jobs, Tourism and Innovation funding programs;
- Ministry of Advanced Education funding to institutions;
- Federal departments including WED, HRSDC, Citizenship and Immigration Canada, etc.);
- BC Government \$5 million to support productivity and long-term viability of the broader maritime sector;
- West Coast Maritime Sector Investment Board;
- BC Government Shipbuilding & Repair training tax credits;
- BC Government Training Tax Credit Program;
- Federal Apprenticeship Training Tax Credits.

During the implementation planning associated with this Strategy – when strategies are prioritized and timeframes set – existing and potential funding sources will be further explored.

The implementation planning should consider the following elements:

- Communication of the Strategy;
- Engagement of industry organizations and stakeholders;
- Priorities and ‘early wins’ to establish momentum and credibility;
- Timelines and sequencing of strategies;
- Phasing of the Strategy;
- Roles and responsibilities of industry proponents, stakeholders and service providers; and,
- Provisions for monitoring, reporting on and evaluating the Strategy implementation.

Once in place, the industry leadership entity for this Strategy will develop a detailed implementation plan. Each priority in this plan will have an action plan with specific project management information and deliverables.

## **7. CONCLUSION**

To paraphrase a long-time industry representative, the NSPS and other growth activities in the BC shipbuilding and repair is a “once in 50 years” phenomenon (opportunity) for this industry.

While small in relative terms, the projected job openings to 2020 in BC shipbuilding and repair represents 89% of its baseline employment in 2012 – almost double. At a provincial level, the BC forecasts job openings to 2020 being equal to only 41% of baseline (2012) employment.

Over the last few years, the industry has worked with governments and training providers on various workforce-related issues and strategies. This will provide the SRI with a base of experience on which to build the strategies necessary to ensure shipbuilding and repair employers have the skilled talent needed to respond to the investment demand.

When all is said and done, a handful of critical success factors will determine the efficacy with which this Strategy is successfully executed and whether desired outcomes are achieved:

- An effective industry leadership entity is clearly defined and implemented in a timely fashion before the end of this year;
- Large, medium and small employers are meaningfully engaged in participating in the implementation of this Strategy;
- This Strategy is sustained beyond the short-term and continuously improved and updated over time;
- The training system, including the Industry Training Authority and the apprenticeship system, adapts its delivery to the needs of this industry; and,
- Governments continue to play an effective facilitative role and maintain a positive environment for shipbuilding and repair and workforce development.



## **APPENDICES**

To be determined.